



N° 2

IDRC Working Papers on Globalization, Growth and Poverty

Agricultural Growth and Poverty Reduction: A Scoping Study

Steve Wiggins

Overseas Development Institute (ODI)
London, UK

March 2006



Canada

IDRC Working Papers on Globalization, Growth and Poverty

Documents made available through this series result from the work of IDRC's program initiative on "Globalization, Growth, and Poverty" (GGP). They are intended to contribute to the knowledge base and debate around critical issues on the inter-linkages among growth, poverty, inequality and globalization, and on the generation of capacities for evidence based policy making.

Canada's International Development Research Centre (IDRC) is one of the world's leading institutions in the generation and application of new knowledge to meet the challenges of international development. To fulfill its mission of "Empowerment through Knowledge", IDRC works in close collaboration with researchers from the developing world in their search for the means to build healthier, more equitable, and more prosperous societies.

The papers in this series have been developed in the context of GGP's work and include literature reviews, scoping studies and, occasionally, issue-oriented evaluation studies. They are written primarily by IDRC staff, hired consultants and interns. The papers are not subject to peer review, nor reviewed or edited for style and content. The views expressed are those of the author(s) and do not necessarily represent those of the International Development Research Centre or its Board of Governors.

IDRC's Working Papers on Globalization, Growth and Poverty are published and distributed primarily in electronic format via www.idrc.ca/ggp, though hardcopies are available upon request. Working papers may be copied freely for research and educational purposes and cited with due acknowledgment.

Agricultural Growth and Poverty Reduction: A Scoping Study

Steve Wiggins

Overseas Development Institute (ODI)
London, UK

Abstract:

This report, intended to inform the planning of an IDRC programme on globalisation, growth and poverty, sets out a research agenda on agricultural growth and poverty reduction, and outlines the methods and means by which that agenda could be studied. Drawing on a detailed analysis of the environment and factors that influence agricultural development, the report has three sections: setting out the issues considered important to thinking about agricultural growth and poverty reduction; choosing an agenda in the light of what others are doing, the scope for policy leverage, and how it might apply in different contexts; and outlining the methods and means that might be used to implement the research programme. In particular it suggests a focus on rural labour markets — with linked consideration of migration and the rural non-farm economy that so closely influence the labour markets as well as agricultural input supply, produce marketing and farmer organization in an attempt to understand the institutional changes which might limit market failures.

International Development Research Centre
PO Box 8500, Ottawa, ON, Canada K1G 3H

About the Author

Steve Wiggins is a Research Fellow in the Rural Policy and Governance Group at the Overseas Development Institute. He has more than 27 years of experience of working, researching and teaching economic and management aspects of agricultural and rural development with a focus on rural livelihoods, rural economies and household economics; governance, including management, of rural development; change in farming systems, with particular interest in dairying; credit and rural banking and environmental change. He has particular expertise in Latin America and Sub-Saharan Africa.

Wiggins, S. 2006. *Agricultural Growth and Poverty Reduction*. Working Paper 2, IDRC Globalization, Growth and Poverty Working Paper Series. Ottawa: International Development Research Centre

Copyright © 2006, International Development Research Centre, Ottawa, Canada
This publication may be downloaded, saved, printed and reproduced for education and research purposes. When used we would request inclusion of a note recognizing the authorship and the International Development Research Centre.

Please send inquiries and comments to: ggp@idrc.ca

Cover Images: IDRC photos, Beaulieu, Y.

Design & Layout: Andrea Puppo, Carolina Robino, and Rachel Ziemba 2006. Adapted from previous IDRC working paper templates.

Formatting and editing by Rachel Ziemba.

Contents

<i>Executive Summary</i>	1
<i>What do we need to know?</i>	10
Introduction: agricultural development and poverty reduction	10
Understanding rural livelihoods and the context for agriculture	12
International markets and trade	13
Changes in the global environment	15
Migration and multi-location households	16
Rural labour markets	18
The rural non-farm economy	19
The rural environment	21
Agricultural development, more strictly defined	22
Strategy for agricultural development	23
Markets for produce and demand	26
Investment, rural finance and input supply: the importance of market failures:	28
Farmer organization	30
Land tenure	31
Agricultural technology	32
Water and agriculture	34
Differentiating agricultural growth strategies: spatial variations	36
Differentiating agricultural growth strategies: social stratification	37
Summarising	38
<i>Choosing a Research Agenda</i>	42
What are others doing?	42
How much does research and evidence count?	44
How do research priorities vary by place and time?	47
Land potential	48
Settlement density and ease of movement	48
Human dimensions: education and social division	49
The state of economic development in general	49
The proposed agenda for IDRC	50
The themes chosen and poverty reduction	51
The novelty of the themes	54
<i>Researching the proposed themes</i>	58
Rural labour markets, migration and the rural non-farm economy	58
Agricultural input supply, produce marketing and farmer organisation	60
Final reflection: methods, outcomes and research success	61
<i>Bibliography</i>	63

Executive Summary

This report is intended to inform the planning of an IDRC programme on globalisation, growth and poverty, by considering the specific theme of agricultural growth and poverty reduction. In particular it sets out a research agenda for this theme, and outlines the methods and means by which that agenda could be studied.

The specific objectives of this work were:

- ‘to help identify a prioritized research agenda around questions of agricultural development and poverty reduction
- to provide general observations on methodologies for research on agricultural development and poverty reduction, highlighting possible data limitations that would influence research choices and economically/ feasible approaches to addressing those evidence gaps.
- to make recommendations on priority approaches to tackle the identified agenda (i.e., relative importance of in-country as opposed to cross-country analysis, and of relative weight to attach to in-country capacity building, additions to the global stock of knowledge, or synthesis and translation of research to influence policy debates).’
(from Terms of Reference)

The report has three sections: setting out the issues considered important to thinking about agricultural growth and poverty reduction; choosing an agenda in the light of what others are doing, the scope for policy leverage, and how it might apply in different contexts; and outlining the methods and means that might be used to implement the research programme.

1. What we need to know — issues and questions

The discussion divides the topic into key aspects of the context for agricultural development, specific issues, and considerations of spatial and social variations. Table 1 summarises this section, by issue and the main research questions suggested.

Table 1: Key research issues and questions in agricultural and rural development

Theme	Questions
Understanding the rural economy and agriculture's place within:	
International issues: trade	<p>What will be the impact of trade liberalisation and reforms to OECD agricultural support on international markets for agricultural produce, under different scenarios of full and partial liberalisation? What scope is there for developing countries to use their room for manoeuvre in trade policy to achieve development policy objectives? What should be the negotiating positions of different developing countries in the Doha round?</p> <p>What could and should be done to assist poor countries and producers suffering erosion of preferences?</p> <p>How do changes in international prices feed through to producers in the developing world? To what extent do smaller producer experience price discounts? What experience is there of avoiding discounts or gaining premia?</p> <p>How are non-tariff barriers to trade evolving? What are their impacts on access to Northern markets for exporters from the developing world? How costly is it to comply with SPS, and how can such costs be reduced? How can influence be brought on policy-makers to remove or reduce NTBs based on excessively strict criteria?</p>
The environment: global	<p>Better models of climate change and its impacts on the weather: more reliable estimates, broken down by decade and by agro-ecological region</p> <p>What are the implications of climate change for farming and farmers? — migration and land markets, re-investment in fixed facilities, re-skilling</p> <p>How can farmers cope with increased variability in weather?</p> <p>How have farmers coped with climate change in the relatively recent past (e.g. European farmers and 'little Ice Age')?</p>
Migration	<p>What are the flows of migrants? We need more data on numbers, types or person, purpose and timings.</p> <p>How can migration be facilitated? What information do would-be migrants need?</p> <p>How can migrants be supported, in terms of protection of their rights, and access to public services?</p> <p>How can remittances be transferred effectively and economically? How can we encourage remittances to be invested in people and production?</p>
Labour markets	<p>How do different forms of rural activity create demand for jobs, and how, on the supply side, do the interactions of population growth, migration, and patterns of entry and withdrawal into labour markets — child and teenage labour, retirement ages, females choosing to focus on domestic work — affect the numbers seeking work?</p> <p>more about the evolution through time of demand and supply of rural labour, and the consequent rural wage rates. From this it should be possible to identify the conditions under which patterns emerge.</p> <p>Labour market segmentation: to what extent does Labour segmentation arise, and what are the barriers that prevent markets from being more integrated?</p>

	To what extent do employers exploit their bargaining power to push down wages? How can this can be countered by worker organisation? What are the impacts of official attempts to influence and regulate the working of such markets by stipulating working conditions, taxing employment, establishing legal minimum wages, or convening formal meetings to negotiate wages and conditions between employers and worker representatives?
The rural non-farm economy (RNFE)	<p>Where are the jobs? Rural manufacturing, commerce, private services, public services — under different contexts. How are they linked within the RNFE and to agriculture?</p> <p>What are the key conditions for the growth of rural manufacturing, commerce and services —physical infrastructure, finance, business development services, etc. — in different contexts?</p> <p>What are the possibilities for clusters to allow the growth of small rural businesses, or other forms of industrial organisation such as sub-contracting and industrial enclaves, to allow the growth of rural manufacturing?</p>
The rural environment	<p>What are the processes, impacts and costs?</p> <p>What are the human motivations and capacities for mitigating adverse processes and for investing in conservation of key and valued resources?</p> <p>How can we devise and implement policies that ensure sustainability of the environment and that key resources are conserved?</p>
Agriculture itself	
Overall agricultural strategy	<p>Should agricultural development proceed through sequences, with different priorities for different stages? How should such stages be identified? And how can transitions be made effectively from one stage to the next?</p> <p>What are the lessons from success in agricultural development, particularly in countries that have graduated from international aid?</p>
Spatial variations	What do we do in the LFA?
Social stratification	What can we do with the poor?
Markets and demand	<p>How can we get useful information on markets and prices to producers and intermediaries in the marketing chain? How better to ensure that information on prices, quantities, grades and other conditions flows through the chain? In particular, who should collect and disseminate such information, and how?</p> <p>How can we encourage economies in marketing chains, including cutting transport costs, so that farm gate prices are a higher proportion of market prices?</p> <p>How can the most be made of opportunities for trade between developing countries?</p> <p>Concerning changes in marketing chains, we need better understanding of how marketing chains work, where market power lies and how it is exercised, with what outcomes for prices and standards; and how this varies in different market structures and contexts. How can small producers in particular adapt and thrive when dealing with demanding new buyers in export and supermarket chains?</p>
Investment, finance and	What are the options to resolve such failures, how and why they have succeeded or failed, and in what conditions?

input supply	<p>succeeded or failed, and in what conditions?</p> <p>Who might take the lead on this — government, large companies, farmer associations, NGOs, etc., — and, again, under what conditions?</p> <p>How can promising initiatives in micro-finance be scaled up and linked to large-scale formal financial agencies, such as the banks?</p> <p>What are the political conditions under which investors feel confident that they will not be subject to governments suddenly and apparently arbitrarily altering market conditions? What makes for investment climate in rural areas that allows private entrepreneurs to invest with confidence?</p>
Farmer organisation	<p>How can associations make wise decisions on the mix of lobbying, vertically-integrated actions in the supply chain, and horizontal co-ordination of members? What are the conditions that make each of these functions successful?</p> <p>What forms of operation and procedures are compatible with transparency and accountability to members?</p> <p>How can associations grow with sufficiently limited membership, functions and procedures that they can succeed — while being large and ambitious enough to make a difference? And how does this change as the organisation grows?</p> <p>What support is needed in the early stages, who can best offer this, how should this be funded, and at what point should support be withdrawn?</p>
Land	<p>What institutions can provide the processes to allow fair and flexible access to land, and under what conditions do these work?</p> <p>What institutions are needed to underpin the development of land markets that allow efficient use of the resource, but which respect concerns for conservation and equity?</p>
Agricultural technology	<p>What is the likelihood of success in generating techniques appropriate for more marginal areas, and that require less capital and external inputs? Alternatively, to what extent is it simpler to change the circumstances of farmers to suit the techniques on offer or that can be generated with reasonable hope of success?</p> <p>How do different forms of intellectual property affect investment in agricultural research, and access to the benefits of that research?</p> <p>How could private agricultural research laboratories be contracted to produce innovations suitable for poorer farmers?</p> <p>How can smallholder effectively participate in decisions taken for the direction of publicly-funded agricultural research?</p> <p>What have been the experiences of GM varieties of crops already planted in countries such as Argentina, China and South Africa?</p>
Agriculture and water	<p>How can water losses in transit be reduced? How can water be delivered to the plant root zone most efficiently? These are longstanding questions in irrigation engineering and agronomy. Improved methods are known: but often the issue is their cost. Progress here may lie with innovations, such as new materials, that lower such costs.</p> <p>How can the operation and management of large-scale irrigation schemes be improved? What is the scope for privatisation of public schemes, and for greater user participation? How can governments and farmers be persuaded</p>

	to relinquish subsidies on irrigation water? How can a mixture of incentives and regulations be devised that will prevent excessive drawdown on the common resource of groundwater?
Spatial variations: the less-favoured areas	How can competitive activities be developed in the LFA? How can out-migration be facilitated on advantageous terms? What have been the lessons from the development of such areas in OECD countries?
Social stratification	<i>See the questions posed above under investment, finance and input supply, rural labour markets and the non-farm economy.</i> What ways can social protection be delivered to the non-working poor effectively and efficiently?

2. Choosing an agenda

An imprecise but informative exercise was carried out to identify the research interests of some of the leading aid donors, and to look at the density of academic publication on the issues identified. A second filter was applied by considering the scope for policy leverage, in this case reduced to two questions: the degree to which the issue was politically sensitive with entrenched positions; and the extent to which actors other than the state can take action. This produced a quite well marked division of topics into those that are both controversial and require state action, and those where debate is more open and there is scope for action by the private sector, communities and civil society as well as the state. These provided the main justification for the agenda chosen: topics that get too little coverage, and where there is scope for debate and for plural action. Two clusters of issues thus emerged:

- **Rural labour markets** — with linked consideration of **migration** and the **rural non-farm economy** that so closely influence the labour markets. The labour markets are important on two counts. One, they act as barometer of the rural economy: developments in the level of demand for workers and the wage rates paid should be quite sensitive indicators of changes in the rural economy, some of which may not be easy to observe. Two, they directly affect the livelihoods of some of the poorer groups in the rural areas who rely heavily on job offers and wage rates for their incomes; and,
- **Agricultural input supply, produce marketing and farmer organisation.** With the large majority of governments committed to allowing markets to operate, the

functioning of private markets has become perhaps the single most critical element affecting farmers' chances of investing, improving productivity, becoming more competitive and earning more from the farm. Yet the evidence from many parts of the world is that some of the key markets are failing, for clear and, it has to be said, predictable reasons. Finding the institutional innovations to solve such blockages, in some cases through the operations of farmer associations, has become one of the key challenges in agricultural and rural development.

How new are these themes? Would the same priorities have emerged twenty years ago? Whilst not novel, these themes have taken on increasing importance in recent times. For rural labour markets, a growing fraction of the rural population — and especially the poor who are often landless or nearly so — have come to depend on them as population increases, the amount of land per person declines, and as economies develop. Even in Africa, where in many areas most agricultural labour was formerly allocated by social arrangements, labour markets are becoming ever more important.

Similarly, the interest in inputs, marketing and farmer organisation has taken on renewed importance since the orthodoxy of market liberalisation came to the fore in the late 1980s and early 1990s. Unfortunately the expected response of the private sector has often been disappointing, thanks to some by now only too evident market failures. These apply particularly for less-favoured areas and for poorer producers. It is only a slight exaggeration to say that in most parts of the developing world, failures in supply chains constitute the single largest blockage to agricultural and rural development — often more important than topics such as international trade rules that get a great deal more attention.

An attempt has been made to relate the importance of these topics to varying contexts, but with no great success. Context matters, and considerably so, but since there are so many variations that are potentially important it is difficult to state useful and general propositions on this — other than stating the obvious.

In terms of the relation of these topics to poverty reduction, as opposed purely to agricultural development, three propositions are advanced, namely:

1. If agriculture does not grow at rates of 1–2% a year ahead of population, the rural economy will not create the jobs and incomes to reduce poverty. In most of the poorer rural economies of the world, with Africa in the fore, there are simply no other activities large enough to provide the jobs and incomes.
2. In most cases large reductions in rural poverty do not come about directly through agricultural growth. The strongest effect often comes through the rural labour markets where demand for unskilled workers outstrips supply. Much of the increased demand may come from work off farms, but often in activities stimulated by agricultural growth. A couple of other factors probably play a significant role: one is the reduced cost of food in real terms that agricultural growth can bring; the other being the effect of migration in reducing the rural labour supply and in remitting funds to the rural areas.
3. Economic growth effects can deal with no more than a part of rural poverty, specifically it can help the working poor. Unfortunately, a substantial fraction of the rural poor are not able to work, hit variously by ill health, old age, disability, accidents and violence, alcohol and drugs. Helping them depends on social welfare. In the long run, economic growth makes it increasingly possible for the state to offer comprehensive support to those unable to work their way out of poverty.

In this line of thinking, the two clusters focus on the two critical mechanisms for reducing rural poverty: getting agriculture moving, and therefore stimulating both the wider rural economy as well as the national; facilitating the spread of benefits through the rural economy and to the rural poor in particular, through the market for unskilled rural labour.

3. Programming the research

For **rural labour markets, migration and the rural non-farm economy**, the agenda can be split into two elements:

a. Syntheses and cross-country comparisons. This is particularly important for rural labour markets, less so for migration and the non-farm economy where some impressive overview papers have been produced within the last five years. The aim would be to bring together existing knowledge, and if possible organise this within a

framework that facilitates framing research questions and hypotheses. There may also be scope for quantitative cross-country comparisons, drawing on the database of wages maintained by the ILO. These data might be used, for example, to look at relations between wage rates and other development indicators — poverty head-count ratios, income per capita, and human development indicators and indices. This could be done both across country, but also through time.

b. Country cases. Much of what matters in these fields is highly contextual, so case studies at national and sub-national levels are indicated: they allow rich detail to be captured. The aim here would be explain changing levels of wages and demand for labour, focusing on unskilled labour, looking for plausible explanatory factors, including the impacts of policies. As a first step, exploratory studies might be commissioned from nationally-based research groups to examine the evolution of rural labour markets, in the context of migration and the development of the non-farm economy, over a period of at least the last 25 years and preferably longer. Taking the cases of half a dozen or so countries could be instructive: especially the cases of India, Bangladesh, Egypt, South Africa, Kenya, Thailand and Mexico.

The programme might be developed in stages.

- Stage One: synthesis, initial rounds of quantitative work, and the first draft of country case studies. One year might be sufficient.
- Stage Two would draw on the insights to produce sharper and more focused research questions and hypotheses, and then carry out more formal research to answer and test these. Two years would be allowed.

For **agricultural input supply, produce marketing and farmer organisation**, the aim would be to build a menu of options in institutional innovation, with interpretive accounts of what works and under what conditions, and in what sequences. This lends itself to case studies, with comparisons across circumstances. Case studies may be part of action research on these topics: there will often be scope for interaction with the objects of investigation, especially when dealing with farmer organisations. The research would be organised principally at national levels, with a team in each country investigating contrasting

commodity supply chains. Similar sets of commodities could be studied across different countries to provide comparisons.

Work might proceed in two stages, thus:

- Stage One: describe the commodity chains in question, using a simple organising framework such as structure-conduct-performance or market maps (Hellin et al. 2005). Work here can involve participation by actors in the chain. When the results are reviewed, there is great scope here for interactions with policy-makers and other stakeholders. This could be done within one year, quite possibly less.
- Stage Two: formulate more detailed research questions on the basis of initial findings, and carry out the corresponding studies. Action research may be possible. Within two to three years, it should be possible to generate reasonably reliable insights.

There is much scope for replicating this work to expand the menu of policy options; and to create or build on existing networks to stimulate debate and disseminate lessons. Indeed, in structuring a programme along these lines, a sizeable proportion of the funds can be set aside for networking and dissemination.

It is not proposed that this programme studies rural finance, since there is already considerable research effort in this field. But a conscious effort would need to be made to follow progress in this field and to link to key research centres, since some of the issues of resolving market failures and institutional innovation are very similar. There is much scope for cross-fertilisation of ideas.

What do we need to know?

Introduction: Agricultural development and poverty reduction

Given that the majority of the world's poor live in rural areas, and that despite urbanisation this will remain the case for at least another ten years; then poverty reduction — and hitting the Millennium Development Goal of reducing the fraction of the population living in poverty to half the 1990 level by 2015 — depends largely on reducing rural poverty. Within most rural economies, agriculture is the largest single activity, although far from being the only source of jobs and incomes. The rationale for focusing on agricultural growth to reduce poverty is strong, both theoretically and empirically — see Box 1.

There is an emerging consensus amongst the donor community that the pendulum swung too far away from agriculture in the 1980s and 1990s.¹ This applies especially strongly in Africa. But as governments and donors seek to redirect their funds and efforts back to direct measures to stimulate agricultural and rural development, understanding of what needs to be done is incomplete. Much has been learned in the forty years or more that governments, donors, NGOs and private companies have tried to raise agricultural output and improve living conditions in the countryside. There have been some remarkable successes, above all the 'green revolution' in parts of Asia. But there have also been disappointments and setbacks: promising starts and spurts of agricultural growth have often proved short-lived — as has often happened in Africa. Even when growth has been sustained, rural development has often been incomplete as benefits have been limited to some zones and to some social groups, leaving other areas and groups stuck in poverty — witness, for example, the highly uneven impact of the green revolution in India. All this means that for policy-makers deciding what to do for agricultural and rural development in the early 21st century, guidance is incomplete. As Carl Eicher puts it:

'It is common knowledge that after fifty years of experience, most donors remain confused about how to package, coordinate and deliver aid to accelerate agricultural and rural development in Africa.' (2003, 1)

¹ Seen particularly strongly in Africa, where both the share of government budgets allocated to Ministries of Agriculture, as well as the fraction of donor budgets made up by agricultural programmes, fell remarkably between the early 1980s and the late 1990s.

The lessons of development learned to date it seems, are either too broad to help much with the detail of policy-making; or else are so specific that they are of limited use in different circumstances. Nevertheless, an agenda of issues that apply in many countries can be set out. What follows is an attempt to do this, with a statement of the issues followed by notes on what we need to know. The field has been divided into two broad segments: one deals with the context, matters that define the environment within which agricultural development takes place and that condition in large part the possibilities for such development; the other concerns issues in agricultural development itself. Figure 1 sketches the agenda.

Figure 1: Agricultural development and poverty reduction

As Lipton (2005) has argued, in **theory**, agricultural growth should reduce poverty because farming:

- (a) can use relatively large amounts of unskilled labour compared to capital, so that agricultural growth results in increased demand for unskilled labour, thus creating jobs and tending to raise the rural wage rate;²
- (b) generates returns to land, an asset that some of the poor have when they have few other assets than their labour power;³ and,
- (c) tends to push down the price of produce, including food, to the immense benefit of the majority of the poor who have to buy in food staples.⁴

Empirically, the historical record shows that no country — city states such as Hong Kong and Singapore excepted — has ever seen rapid economic growth without substantial growth of its agriculture. In many cases the increases in agricultural output have preceded the major expansions of manufacturing. This would be the case for the UK in the 17th and 18th C, as well as many of the recent East Asian growth stars, such as China, South Korea, Indonesia, and Taiwan.

Quantitative comparisons across countries using regression analysis tell a similar story. Irz et al. (2001) estimate that for every 10% increase in farm yields, there is a 7% reduction in poverty in Africa, and a 5% reduction in Asia. Growth in manufacturing and services has no such effect. De Janvry & Sadoulet (2002) use stylised models⁵ to show how improved farm productivity can reduce poverty in different circumstances. In Africa, they argue, the benefit comes from direct increases in production accruing to the poor as farmers; in Asia, the benefit to the poor comes from increased jobs and

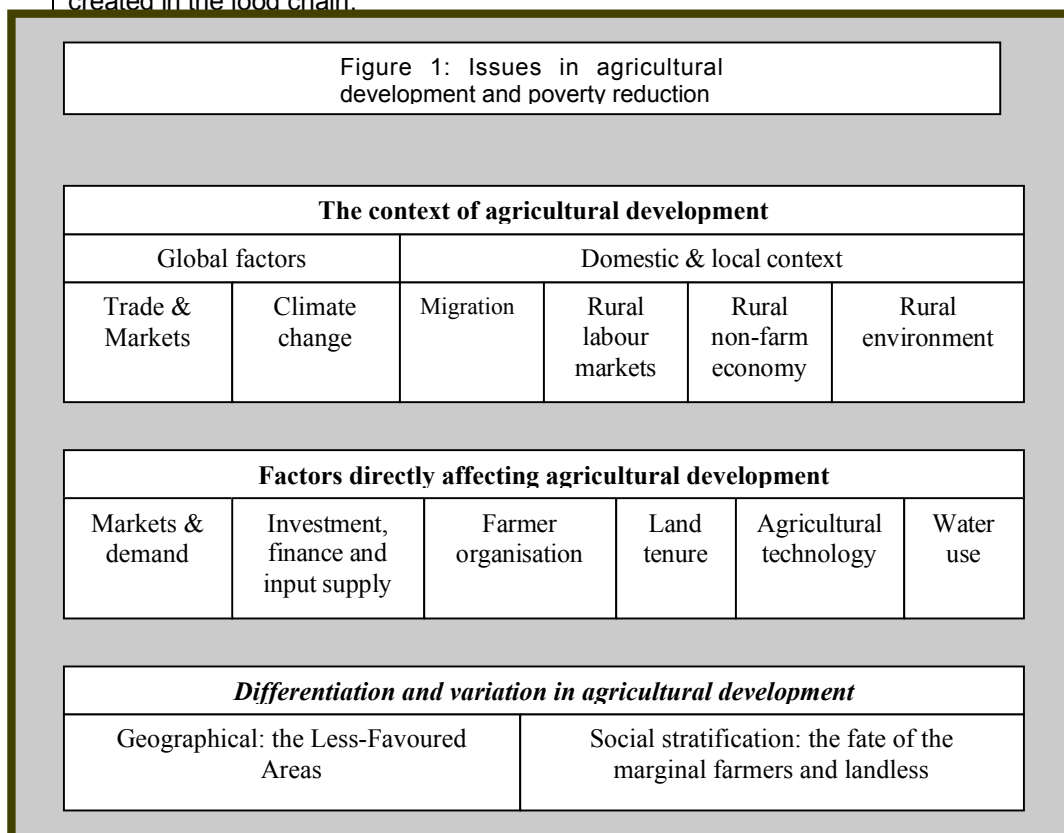
² More completely stated, the argument is that many crops and animal enterprises can be conducted using a wide range of techniques, and while there are often ways of mechanising farm operations, labour-intensive techniques can be deployed when capital is scarce.

³ Clearly this argument does not apply to the many millions of landless labourers in South Asia. But in other regions, land is one physical asset the poor do have, albeit not much of it.

⁴ Falling output prices may seem to eliminate the incentives for agricultural growth — but not if the pace of technical improvement exceeds the fall in price. In many cases the green revolution technology has managed to deliver productivity increases greater than price falls. Note that such effects are not trivial: in twenty or so years since the early 1980s, the wholesale and retail price of rice in Bangladesh fell to half its previous levels in real terms.

⁵ Computable General Equilibrium models were created to represent typical features of countries in the three major regions of Africa, Asia and Latin America.

upward pressure on farm wage rates; while in Latin America, the poor gain from additional jobs created in the food chain.



Understanding rural livelihoods and the context for agriculture

A failing of agricultural development strategies on the past has been a relative ignorance of important changes in the context; be it, at the wider level, the importance of macro-economic conditions, or, at the village level, a failure to see farming as but one of the livelihood options pursued by rural households. Decision-makers today are a great deal more aware of the context.

Six specific aspects of the context can be selected: two international issues — the economic context of markets and trade and the physical context of the global eco-system; and four concerns located in the local rural surroundings of farmers — migration, rural labour markets, the non-farm economy, and the local physical conditions of the environment.

International markets and trade

The issues: The impacts of changes to rules governing international trade, as well as to the policy regimes by which most of the OECD countries offer heavy support to their farmers — with in some cases the consequence that surplus produce is then dumped on to international markets at subsidised prices — attract great interest. These rules and policies are highly visible. The way in which they link the fortunes of diverse countries excites the imagination. Moreover, activist groups in the North can legitimately lobby their own governments on these policies.

Studies of agricultural policy regimes throw up very large numbers — farm support in the North runs at more or less US\$1 billion a day, US\$350 billion a year, or around five times the total official development assistance offered by OECD countries. A complete liberalisation of the agricultural trade rules and abolition of Northern support would generate, it is estimated, gains of US\$250 billion or more.⁶

Liberalisation is likely to have highly uneven effects by commodity, and by country concerned. Producers of some commodities in particular developing countries have benefited from preferential access to Northern markets, thereby effectively receiving the same high and protected prices as Northern producers. An example would be sugar cane producers in ACP countries granted a quota of tariff-free access to the lucrative markets of the European Union.⁷ So-called ‘preference erosion’ from generalised trade liberalisation is seen as threat to some of the world’s poorest countries. Calls for compensation to allow adjustment have thus been made.

Quite how many of the rural poor in the developing world are directly affected by these rules and the proposed changes is less clear. Some cases are well known, for example the impact

⁶ Although the modelling exercises that generate these kinds of estimates come up with a wide range of figures.

⁷ This has produced the unusual result that the decision to cut sugar beet prices in the EU — an expensive way to subsidise European beet farmers and processors for which there is little or no economic justification — has been greeted by alarm by trade activists who see major losses to cane farmers in those ACP countries that had quotas of low-tariff access to the European market. With European prices for sugar set to fall, the value of the quota is much diminished.

of US subsidies to cotton producers that drives down the world price and has heavy effects on the potentially thriving cotton growing regions of West Africa (Gillson 2004, Oxfam 2002). But for many other farmers trade rules are largely irrelevant. They grow a combination of exported tropical crops such as tea, coffee, cocoa, rubber, palm oil, groundnuts, etc. that neither run into trade barriers, nor are affected by Northern dumping — sugar cane would be an exception; and food crops for domestic markets where there is often natural protection from the high cost of transporting imported foods to the main centres of consumption — the main exception here being those countries where the main centres of consumption are coastal, as applies in West Africa. Not surprisingly when global trade models are run, the really big gains accrue to taxpayers and consumers in the North, and for many developing countries the gains or losses are small.

Of more concern to most farmers in the developing world are the trends seen in global commodity markets, where prices are in seemingly inexorable decline — largely for well known reasons of the low income elasticity of demand for agricultural produce compared to the ability to expand supply relatively easily. Tight global markets also tend to mean that buyers can be ever more demanding on quality. There are worrying signs that some of the poorest farmers find that the price of their produce is discounted for lack of assured, standardised quality (Friis-Hansen 2000).

The emergence of non-tariff barriers (NTB) to trade is another concern. Rules on plant and animal health and food safety have proliferated and become more stringent. In some cases they have led to outright bans on imports of particular products from stated locations, as for example in the case of Nile Perch from Lake Victoria shipped to the EU. In other cases the standards are set so high as to effectively close the market to many would-be exporters from the developing world, as would apply in the case of groundnuts from West Africa facing very strict requirements on aflatoxins when entering the EU as nuts.

What we need to know:

- What will be the impact of trade liberalisation and reforms to OECD agricultural support on international markets for agricultural produce, under different scenarios of

full and partial liberalisation? What scope is there for developing countries to use their room for manoeuvre in trade policy to achieve development policy objectives? What should be the negotiating positions of different developing countries in the Doha round?

- What could and should be done to assist poor countries and producers suffering erosion of preferences?
- How do changes in international prices feed through to producers in the developing world? To what extent do smaller producer experience price discounts? What experience is there of avoiding discounts or gaining premia?
- How are non-tariff barriers to trade evolving? What are their impacts on access to Northern markets for exporters from the developing world? How costly is it to comply with sanitary and phytosanitary standards (SPS), and how can such costs be reduced? How can influence be brought on policy-makers to remove or reduce NTBs based on excessively strict criteria?

Changes in the global environment

The issues: The world's climate is changing, almost certainly owing to emissions arising from human activity. It is predicted that over the medium to long term — most effects will not be seen to any great degree for a quarter century or more — temperatures will increase, perhaps by as much as 5°C by the end of the 21st century, and with that rainfall will alter, climate may become more variable with increased frequency of extreme weather, and sea levels will rise.

Agriculture will be one of the activities most affected by such changes. Entire farming systems may have to change to adapt to the altered climate, new rounds of investments in physical infrastructure will be needed to reflect the changing pattern of production. If climate becomes more variable, ways to mitigate increased risks to farming and farm incomes will need to be found.

What we need to know: Clearly it would be good to have reasonably reliable predictions of likely changes in climate, broken down to sub-national scales of farming systems, and

preferably with decade-by-decade predictions of the likely changes in weather. We are far from having such predictions. Current models of climate operate at much broader scales, and with considerable margins of error. This means that for the moment, it is difficult to plan for a particular change in the climate in any direction. Given that, we need to know how to help farmers to react and adapt to such changes. This agenda may include re-investing in the infrastructure needed for new patterns of farming, learning new skills, in some cases migration with implications for the flexibility of land markets. It will also include renewed attention to risk mitigation looking at both ex ante measures to reduce the impacts of hazards, or ex post ways to cope with the consequences of hazards.

History may provide some interesting perspectives: for example, European farmers had to cope with the 'little Ice Age' that began in the late Middle Ages. How were those changes handled?

Migration and multi-location households

The issues: In a world where communications are easier, and transport usually less costly than before, migration of rural people seems to be increasing. Movements take place at various scales — from long-distance international migration to daily commuting; and on different cycles — from permanent moves to seasonal transhumance to daily journeys.

Migration is contentious: there is, by and large, a prejudice against it in many policy circles. Decision-makers fear that moves from country to town are already running at levels beyond the capacity of the cities to cope with incomers, many of them poor and seeking housing and services in an already stretched environment. Moreover, migration is taken as evidence of failure of rural development, the migrants seen as refugees driven by desperation.

Studies suggest otherwise: many rural-urban migrants seek opportunity, and bring with them if not money and physical resources, considerable energy and determination to better their lot. They are often amongst the better educated from the rural areas. For the households of migrants, migration appears an increasingly important part of their livelihoods, allowing the household to take advantage of distant opportunities to earn higher returns to labour. Migrant remittances not only allow higher levels of consumption, but can also fund

investments in rural activities including farming, and help pay school fees. The evidence suggests that much migration is not likely to cease were rural development successful and rural poverty alleviated.

It is difficult to keep track of migration: movements can ebb and flow remarkably quickly as circumstances change, eluding registration in regular data collection such as censuses. Such movements pose headaches to authorities trying to plan the provision of services such as education and health, or to collect taxes. For the migrants, there are important issues of their rights as workers and citizens to fair treatment. Most migrants are vulnerable when they travel from their home community, even when within their own country. Entitlements to education and health services become more difficult to claim in temporary accommodation.

Getting remittances back to places of origin can be difficult and costly, although there is patchy evidence of ingenious ways of sending funds home. And there are questions about how remittance monies can best be used when arriving in communities in origin, with ideally at least a part of these funds being used to finance investments.

What we need to know: In first instance, decision-makers need more data on just what is happening. There are decisions to take directly related to migration — as in rights and services (see below), and in deciding on investment in urban infrastructure. There are also decisions indirectly related to migration, in terms of understanding rural livelihoods and the ways in which migration creates or closes off other options. For example, it makes no sense to promote dry season irrigation if much of the adult labour force prefers to migrate to another region at that time (which is what was attempted in the 1970s and 1980s in the Senegal Valley, with, not surprisingly, little success). If much migration is by choice, policy-makers need to facilitate it rather than repress it. Finding way to provide would-be migrants with more information on the options, the benefits and costs of movement would help.

A key issue is protection of the rights and entitlements of migrants to fair treatment and to public services: we need to know more about what can be done in the often precarious circumstances of temporary accommodation in which migrants find themselves.

How to facilitate remittances, and make good use of them, is another question.

Rural labour markets

The issues: Many of the rural poor, lacking access to sufficient land or other assets, depend heavily on getting jobs locally. The market for unskilled labour, in terms of jobs and wage rates, is a major determinant of poverty levels. Historically, rural poverty tends to fall as and when the unskilled labour market tightens and wages rise (Gardner 2004, Hazell & Ramasamy 1992). The demand for labour depends on the vigour of the rural economy. Agricultural growth, and above all the linkages that this creates in the rural economy, can drive up rural wages.

On the supply side, migration and commuting remove or displace some of the rural labour supply. Population growth and in-migration can raise supply. Increasing wealth in the rural economy may lead to some people withdrawing from the labour market — particularly the elderly, the young, and adult females already expected to do most of the domestic work.

The working of rural labour markets may also be important: the extent of market segmentation that prevents workers from seeking better-paid jobs, the degree to which dominant employers can use market power to hold down wages, and the scope for public policy to affect the operations and outcomes of such markets.

What we need to know: The details of how demand and supply affect rural labour markets are not well known.

- How do different forms of rural activity create demand for jobs, and how, on the supply side, do the interactions of population growth, migration, and patterns of entry and withdrawal into labour markets — child and teenage labour, retirement ages, females choosing to focus on domestic work — affect the numbers seeking work?
- It would good to know more about the evolution through time of demand and supply of rural labour, and the consequent rural wage rates. From this it should be possible to identify the conditions under which different patterns emerge.
- Labour market segmentation: to what extent does this arise, and what are the barriers that prevent markets from being more integrated?

- To what extent do employers exploit their bargaining power to push down wages? How can this can be countered by worker organisation? What are the impacts of official attempts to influence and regulate the working of such markets by stipulating working conditions, taxing employment, establishing legal minimum wages, or convening formal meetings to negotiate wages and conditions between employers and worker representatives?

The rural non-farm economy

The issues: Less is known about the rural non-farm economy (RNFE) than about the agricultural economy. The RNFE has, until recently, been less well studied than agriculture. But what we know from the increasing volume of studies of the RNFE is that:

The sector is important and increasingly so. With surveys repeatedly reporting 40–60% of rural household incomes arising from non-farm activities, the RNFE clearly matters for incomes and poverty. Moreover, the share of rural incomes from RNFE sources seems to be growing — but whether this is a sign of rural prosperity or desperation is in debate;

The RNFE is heterogeneous, embracing activities as diverse as craft manufacturing, retailing and trading of all kinds, transport, private services such as hairdressing, tea-shops and eating places, and the provision of public services such as primary schools. Activities are frequently divided into two broad groups, those arising variously from:

- The *pull* of market demand, that are often capitalised and require skilled labour, and which earn returns higher than those in farming; and,
- The *push* of the supply of labour of the poor who lack better opportunities to use their labour time. These ‘refuge’ jobs of last resort often require little capital and minimal skills, and so present few barriers to entry. When the labour market is slack, the unemployed and under-employed enter, produce too many goods and services for the demand, and earn low returns — often lower than those in farming, and sometimes even lower than those paid to agricultural labourers.

The RNFE may be critical to easing rural poverty. It helps spread risks and generates income when farming does not. RNF activity potentially offers opportunities to the poor,

including women, who are excluded from agriculture owing to lack of access to land or capital. Indeed, the market for rural (unskilled) labour may transmit benefits across the spectrum of the poor. The poor often depend heavily on casual, unskilled jobs, whether on farms or in non-farm occupations. To the extent that non-farm business increases the demand for rural labour, and so puts upward pressure on rural wages,⁸ the rural poor may benefit, whether or not they are involved directly in the RNFE as entrepreneurs or workers.

The RNFE often depends on agriculture for its size and growth. The RNFE tends to be larger where farming prospers.⁹ Conversely, there is little RNF activity in areas of low agricultural production — often those of low natural potential, or remote from the main urban centres, or both.

RNF activity concentrates in rural towns and market centres. Rural non-farm businesses are increasingly likely to locate in rural market centres, rather than at household and village level. Market centres usually have better physical infrastructure and other services than villages. Their location makes them good places to sell goods and services to customers. But how large does a rural centre have to be, and what facilities does it need, to attract and stimulate RNF business? Various proposals have been made on how policy may influence settlement hierarchies that stimulate the local economy, although convincing lessons are not yet clear (Douglass 1998).

Most RNF enterprises are micro or small-scale (MSE). Most are so small that they involve only the owner, with at most some part-time and occasional help from household members. MSE start-ups are common, especially in hard times: so are MSE failures. How to get existing MSEs to grow, to invest and above all to employ additional workers, is a perennial question, and again, one that has not been answered convincingly (Mead & Liedholm 1998).

⁸ At very least, non-farm activity may put a floor wage into the rural labour market, in much the same way that public employment programmes, such as food-for-work do.

⁹ This is hardly surprising in economies where agriculture is the main single activity, the largest employer of labour and the main earner of export revenues.

Although the conditions for expansion of the rural non-farm economy are known in broad outline — a combination of physical infrastructure (roads, electricity, water), education and skills for entrepreneurs and staff, knowledge of production techniques and of markets, availability of business services, a well functioning rural financial system, institutions to support business such as contract law — there is little known on the specific importance of these in different circumstances, or about how to provide these conditions effectively and economically.

What we need to know: Given the state of ignorance of the RNFE, the range of possible enquiry is wide. Some topics that seem particularly important include:

- A better understanding of where the jobs are, and how they are linked. More information on the mix between rural manufacturing, local private services, and public services that arise in different contexts would be useful.
- The relative importance of key conditions for the emergence of rural manufacturing, commerce, and private services — physical infrastructure, the working of rural credit markets, and the provision of business development services — in different contexts, including the characteristics and performance of local agriculture.
- For rural manufacturing, the possibilities for clusters to provide a framework within which small businesses can learn and grow; compared to other models of business development — for example, the creation of industrial enclaves, or the direct links of small businesses to larger corporations in sub-contracting.

The rural environment

The issues: Rural environments are changing under human impact as land use is altered, primarily by agriculture converting forest and bush to fields; as resources — water, nutrients, timber, minerals, fish, etc. — are abstracted; and as wastes are returned as potential pollutants. Widespread concern surrounds many of these processes, and in particular salination, desertification, soil loss and degradation, over-abstraction of groundwater, pollution of water courses, and loss of eco-systems that are unusual or rich in bio-diversity such as tropical forests and mangroves.

It is easy to produce a long list of problems, with specific examples of alarming trends. What is less clear is just how widespread and serious many of them are;¹⁰ and the extent to which changes imply permanent loss, or, alternatively, can be remedied as and when resources are available. Similarly, while some evidence on damage is recorded, there appear to be no such counterparts looking at improvements, although some small-scale studies report the latter — most famously for the case of upper Machakos in Kenya (Tiffen et al. 1994). Hence the record of rural environmental change tends to be biased towards showing deterioration. If we are to prevent, ameliorate and correct whatever damage is being caused, it will take a mix of policy to internalise externalities, assign property rights, remedy capital market failures, and, perhaps above all, to provide information on costs of damage and the benefits of conservation.

What we need to know:

- Understanding the processes and their full ramifications — made more difficult when change takes place in complex ecosystems where some effects operate with long lags;
- Appreciating human motivations and capacities for mitigating adverse processes and for investing in conservation of key and valued resources; and,
- Devising and implementing policies that ensure sustainability of the environment and that key resources are conserved.

Agricultural development, more strictly defined

It is one thing to make the case for agriculture: it is another to present convincing programmes for public action to stimulate agricultural development that will relieve rural poverty. One reason for the recent disaffection with agriculture amongst governments and donors has been doubt about the effectiveness and feasibility of public intervention in the sector. Experience suggests some caution, while the prevailing theory of the ‘Washington

¹⁰ This varies considerably by case: it is fairly easy to determine the loss of the major tropical forests, or the conversion of mangroves to other uses; but much harder to assess soil erosion, or almost any of the processes that make up desertification.

Consensus'¹¹ suggests that government should limit itself to the provision of public goods — agricultural technology plus physical infrastructure such as rural roads. But there are reasons to paint a wider canvas than this, since there is ample evidence that markets in rural areas — above all those for land and finance — often fail. Without public action, then, agricultural development — and with it the prospects for reducing rural poverty — would be stymied. This section reviews these issues, beginning with a discussion of overall strategy for agricultural development, then looking at markets for produce, investment and inputs, farmer organisation, land, and agricultural technology. It concludes by looking at two dimensions in which policy may need to be differentiated: by area, and by social group.

Strategy for agricultural development

The issue: Despite the considerable success in agricultural growth seen in the developing world over the last fifty years or so, above all with the green revolution in Asia, there is no great confidence in setting a public strategy for agriculture. This applies above all in Africa, but can also be seen in other parts of the world.

Why is it that we do not have a tried and tested package, or set of packages for differing circumstances, that can be recommended with confidence? Three reasons may explain this.

One, progress in agricultural development has been uneven, geographically, socially, and through time as growth has proceeded often in fits and starts. In some countries, policy-makers have seen previous efforts to promote agriculture falter or fail several times over, as different models — large-scale export farming, smallholder development fostered by state marketing boards, market liberalisation — have all encountered problems. There is no great consensus over the lessons from this mixed record.

Two, the current context for agricultural development, and particularly that for small farmers, looks less promising than it was when the green revolution took off in the 1960s. Box 2 summarises the way in which the context has changed. This, of course, is only one view: it is

¹¹ The Consensus stresses the role of private enterprise in the economy, with the public role being limited to keeping the peace, maintaining a stable macro-economy, providing public goods and services, investing in education and health, and offering safety nets to help the poorest.

not clear just how much these changes impede agricultural development; and changes that assist the process — for example, the advances in bio-technology, the increasing markets of the growing cities of the developing world, the prospects for exporting from trade liberalisation, etc. — are not taken into account.

Box 2: The changed context of developing world agriculture

Simon Maxwell identifies six key changes, thus:

Prices: on both international and domestic markets — increasingly integrated as trade is liberalised — the prices of most food staples are at about half the level they were in the 1960s. Do current prices give farmers sufficient margins and incentives to invest?

Subsidies: the green revolution in Asia was promoted with subsidies on fertiliser, irrigation water, and electricity for pumping. Today, economic orthodoxy would rule out these subsidies, while the costs would be seen as prohibitive by Ministries of Finance.

Sustainability: more intensive farming typically entails problems of heavy use of fossil fuels, falling water tables, salination, compaction, and acidification of soils, and pollution of water sources by excess run-off of fertiliser and pesticides.

Changes to the supply chain: small-scale, under-capitalised and often under-educated farmers find it particularly difficult to meet the quantity, quality, timeliness and traceability requirements of the new supply chains — and have yet to find widely replicable institutional solutions, for example through cooperatives.

Economies of scale: Green Revolution technology, centred on seeds, was scale neutral. Small farmers could participate freely, especially as modern varieties became less risky. New technologies are more likely to involve mechanisation and capitalisation or require high levels of education, both of which may disadvantage smaller farms.

Planners: The new architecture of aid and public expenditure does agriculture few favours. In particular, agriculture — in the past promoted through specific projects and programmes — has not fitted well with the new modalities of sector-wide approaches and medium term expenditure frameworks. Few Poverty Reduction Strategy Papers deal well with agriculture. **Source: Maxwell 2004**

Three, for good reasons the agenda of policy challenges has been widened. In the 1960s, those making agricultural policy were concerned overwhelmingly with increasing the production of food staples. At the time, it seemed that hundreds of millions of lives were threatened by failure to grow more crops.¹² Today, policy-makers are asked to consider not just raising output, but the impacts on the poor, how to ensure that the process is environmentally sustainable, and how it can promote gender equity. They may also be

¹² It is hard to recall today the urgency that the World Food Crisis of 1973–74 provoked: at the time it seemed the world was facing an absolute shortage of food. Population growth rates were at all-time high, while the green revolution was still in its early stages. There were good reasons for the fears then expressed.

asked to ensure that remote and less favoured areas are not marginalised. They may be expected to see agricultural growth through the lenses of nutrition and HIV/AIDS.

These additional considerations are clearly important, but one is reminded of Tinbergen's old dictum about having one policy instrument to reach each policy objective. The danger lies in expecting one set of policies to achieve too much, so that disappointment is thus built into any conceivable strategy. At worst, the result is paralysis: since any feasible strategy will not meet all the criteria, then all proposals are rejected.

For all of these reasons, it is less easy to propose with confidence a strategy for agricultural development likely to convince policy-makers.

What we need to know: The elements of a convincing strategy for a given situation will come, in large part, from consideration of the topics dealt with in the subsequent sections.

An overarching concern, however, is sequencing. Not a new idea in development, the idea that agricultural strategy needs differentiating by stages has recently been revived by those who question the effectiveness of market liberalisation in contexts where market institutions are absent or weak (Dorward et al. 2004). Sequencing also provides an answer to the increasingly crowded and demanding agenda for agricultural and rural development: it suggests that we tackle problems sequentially, rather than trying to solve all problems at one go. It also allows for some learning. But sequencing raises questions about how to recognise different stages, and make transitions.

Another overall point is learning from success. Development practitioners and policy makers, again for very good reasons, tend to focus on problems. As soon as a country, for example, grows rapidly and reduces poverty, it ceases to be a development priority: aid donors simply pull out. Thailand is a prime case. Research funding follows a similar pattern. Thus there is a danger that we fail to learn sufficiently from what has succeeded. Indeed, at worst, our perspectives become distorted: prompted to attend to problems, our vision sees only failure and difficulties, with success and progress out of sight.

Markets for produce and demand

The issues: Farmers will only ever produce more if there is a demand for it that translates into sufficiently attractive prices. In the past, demand was sometimes underwritten by state agencies that would buy up surpluses at a guaranteed floor price. Today it is almost always the market alone that provides demand. Hence we need to be aware of where market opportunity lies.

Agricultural markets may be divided into international and domestic, high-value and staple or commodity. Markets for high-value produce are attractive: often they are growing rapidly, the income elasticity for such produce is relatively high, and in some cases there are shortages that result in very attractive prices. But they are also comparatively small, and access to these markets may mean meeting exacting conditions of crop quality, traceability, reliability of supply and timely delivery. Only a minority of farmers will be able to take advantage of these opportunities. The higher volume markets for staples and commodities are much less attractive in price — indeed, the real prices of most internationally traded agricultural commodities have fallen for most of the last quarter century; and in many cases, the real prices of the main domestically-traded staples have also declined.¹³ But they are large markets, above all the domestic markets: population growth, increasing urbanisation and rising incomes mean that they will expand.

Some scope for increased trade between developing countries exists, although often much damped down by high transport costs, protection and other border measures that impede trade. An intriguing unknown at present is how the large markets of Asia, above all those of China and India, will develop. Successful industrialisation in those countries will see land and water switched from farming to industry, while rising urban wages will put upward pressure on farm wage rates, driving up production costs. This could result in large new markets for agricultural imports.

¹³ We are not talking about small falls either: between the early 1980s and the late 1990s, the wholesale price of rice in Dhaka, Bangladesh fell to about half its former level in real terms.

Falling prices do not necessarily prevent or impede increased production for the market in question: but they do imply that farmers have to be able, through better technology and management, to cut their unit costs of production by more than the price fall.¹⁴ Prices in the market are not necessarily fully reflected back at the farm gate. Transport and other marketing costs make the difference. Cutting these costs can raise the effective price at the farm gate, no matter if the price is stagnant in the market. Costs of moving produce overland in Africa are notably high, partly for lack of infrastructure, partly since transport operations include some notable inefficiencies — including in some countries road freight cartels that set high rates for their services. There may also be scope for reducing other costs in the marketing chain — for example, private traders may lack access to working capital or may face very high interest rates that drive up their operating costs, or restrict entry into markets.

Marketing chains are undergoing rapid changes in many parts of the developing world, including chains that feed into international trade, and those leading to domestic markets. One of the most remarkable is the way that supermarket chains and their buyers have entered the chains and set ever-stricter standards for their suppliers. Many smallholders may be unable to supply the supermarkets, and their produce will be relegated to residual wholesale markets where prices may be discounted.

In other cases, the disappearance of state agencies with monopoly powers has allowed in private traders. In some cases this has led to competition for supplies, but it has also on occasion meant that private traders have not enforced quality conditions for export crops and the produce has had to be sold for a discount on world markets.

What we need to know:

- How can we get useful information on markets and prices to producers and intermediaries in the marketing chain? How better to ensure that information on prices,

¹⁴ This is the old 'treadmill' faced by farmers almost everywhere and throughout modern history: as fast as they innovate and cut costs, the market prices fall. The benefits of innovation are captured in large part by consumers: a good reason, then, for public support to farmer innovation.

quantities, grades and other conditions flows through the chain? In particular, who should collect and disseminate such information, and how?

- Making the most of opportunities for trade between developing countries matters: here the agenda is often one of convincing policy-makers anxious to protect their domestic farming sectors, that liberalisation will bring net benefits.
- How can we encourage innovations and economies in marketing chains, including cutting transport costs, so that farm gate prices are a higher proportion of market prices?
- Concerning changes in marketing chains, we need better understanding of how marketing chains work, where market power lies and how it is exercised, with what outcomes for prices and standards; and how this varies in different market structures and contexts. How can small producers in particular adapt and thrive when dealing with demanding new buyers in export and supermarket chains?

Investment, rural finance and input supply: the importance of market failures:

The issues: Market liberalisation was meant to stimulate the private sector. Investors would supply capital for production, processing and marketing; traders would supply the inputs needed to grow the crops and raise the livestock. All too often, this has simply not happened, the problem not being that profitable opportunities have been absent — although this applies in some cases — but rather that chronic failures in information and trust have made all concerned unwilling to take the risk of investing. Who will build a processing plant, if they lack assurance of produce to keep the plant going? What trader will stock seed and fertiliser if they are unsure of demand amongst farmers? And what banker will offer seasonal working credits they do not know the moral character and competence of would-be borrowers? On the farmer side, who will invest in inputs if it is not clear that produce will be bought fairly and paid for on time? Faced by lack of information and the moral hazard that others will not fulfill their side of the bargain, co-ordination breaks down and all concerned under-invest. A low-level equilibrium trap can thus emerge.

Resolving these market failures will require institutional innovations to generate assurance. While there are some clear models for this — think, for example, of contract farming

schemes — they tend to cover only particular and restricted conditions. A wider menu of options is needed. Moreover, there is the question of just who should take the lead in making the arrangements: private companies, government, NGOs, or farmer associations? A particular concern is rural finance. Owing to the delayed nature of transactions, market failures tend to be both highly prevalent and severe when formal institutions try to do business with small farmers in rural areas. The consequence is that in many parts of the countryside, villagers have no access to formal financial services — for savings, credits, money transfers, insurance, etc. Much has been done, especially by NGOs, to innovate in micro-finance schemes, sometimes building on informal mechanisms for saving and lending. But scaling up promising initiatives has proved difficult, as has linking such schemes to formal agencies such as commercial banks.

Questions have been raised over just how much of the problem is market failure, and how much stems from the reluctance to invest when states, although having publicly liberalised the markets, have proved prone to re-intervene with little or no warning. In general there are concerns that not only government policy, but also the political economy in some cases where officials and individuals exercise power with little restraint, can create conditions in which legitimate business is discouraged.

What we need to know:

- What are the options to resolve such failures, how and why they have succeeded or failed, and in what conditions?
- Who might take the lead on this — government, large companies, farmer associations, NGOs, etc., — and, again, under what conditions?
- How can promising initiatives in micro-finance be scaled up and linked to large-scale formal financial agencies, such as the banks? What are the political conditions under which investors feel confident that they will not be subject to governments suddenly and apparently arbitrarily altering market conditions? What makes for investment climate in rural areas that allows private entrepreneurs to invest with confidence?

Farmer organization

The issues: Although logically this topic forms a part of the previous two points — since farmers may organise to improve marketing and to source inputs, it is sufficiently important to warrant separate discussion.

The retreat of the state from agricultural and rural markets has left the field for private initiative of all kinds: marketing, input supply, financing, provision of information, management of local resources, and operation of once public infrastructure. Private enterprises may effectively fulfil some of these functions, but market failures mean that not all will be filled. For both practical reasons of filling the gaps, as well as for empowerment, farmer associations have come back into fashion.¹⁵

Several large questions surround such associations. One is the strategic question of whether their function is pragmatic in fulfilling roles in supply chains and reducing transactions costs, whether they aim to change the rules of engagement by lobbying government. The latter embraces what might be seen as legitimate democratic functions of drawing the attention of policy-makers to anomalies, unintended consequences of policies, and the need to redress some market failing or social concern. But it can also entail the outright pursuit of protection and privilege over the rest of society. Activist organisations may also become vehicles for the political careers of the ambitious.

Looking at the more pragmatic objectives, there are questions whether the organisation seeks vertical integration as farmers take on supply chains functions, such as transport to market, storage, processing, input supply, etc.; or whether the aim is for horizontal co-ordination of farmer activity and joint negotiation with other intermediaries in inputs, finance, transport and marketing.

¹⁵ 'Back' into fashion, since there was a period, dating roughly from the late 1950s to the mid-1970s when there were high hopes for farmer co-operatives — dealing specifically with marketing and input supply. Based in part on the success of some farmer co-operatives in parts of Europe, and partly on a political preference for co-operatives rather than private enterprise, many developing countries support encouraged the formation of such associations with the active support of donors. Although some co-operatives were undoubtedly effective and successful, there were also many disappointments — arising above all from leadership and management that were either inefficient or corrupt or both. Consequently, enthusiasm for farmer co-operatives waned notably in the 1980s and 1990s.

The precise form of organisation is another major issue. The previous era of co-operatives showed how such associations can fail when they become too large with too diverse a membership, when they pursue too wide range of objectives, and when activities become so complicated that members can no longer exercise effective control over leaders and paid employees. The answers to these questions will clearly vary by context, but they will also change through time. In this latter regard, farmer associations often have active help in their early stages — but who is best placed to offer support and mentoring in the initial stages is another question.

What we need to know:

- How can associations make wise decisions on the mix of lobbying, vertically-integrated actions in the supply chain, and horizontal co-ordination of members? What are the conditions that make each of these functions successful?
- What forms of operation and procedures are compatible with transparency and accountability to members?
- How can associations grow with sufficiently limited membership, functions and procedures that they can succeed — while being large and ambitious enough to make a difference? And how does this change as the organisation grows?
- What support is needed in the early stages, who can best offer this, how should this be funded, and at what point should support be withdrawn?

Land tenure

The issues: From society's point of view, land tenure systems should encourage efficient use of land, conserve natural resources and ecological functions, and allow equitable access, especially for the poor and marginalised. That is quite an agenda, one fulfilled only occasionally in practice. The policy challenge is thus to find ways of fostering land tenure institutions that achieve these objectives.

Throughout the developing world there are signs of land markets emerging, with varying degrees of formality, that attend to issues of efficient operation of the land — albeit with significant failures. Conservation and equity objectives appear to get short shrift. The

dilemmas are most clearly marked in much of Africa, where land is operated under longstanding communal norms while formal ownership may be vested in national legal statutes. The communal systems offer some support for secondary and temporary rights to land: the very ambiguity of the arrangements allow flexibility to changing needs with communities. But as population mounts, tensions over inexact rights mount. Attempts to impose national regulations over local norms often result in increased ambiguity, if not outright confusion.

For several decades the consensus ruled that surveying of plots, titling and the award of freehold titles held in a national register was both inevitable and necessary. But the drawbacks of this have been seen in the considerable time and expense necessary to register all plots, the speed with which land registers become out of date, and concerns that the registration of primary rights holders has led to those with secondary and temporary rights losing access. More recent thinking has explored the options for more flexible arrangements, with the emphasis on fair process to adjudicate claims and to protect secondary rights — often in effect women's rights to land — and temporary rights. It looks as though this is a matter of seeking institutional innovation.

What we need to know: What institutions can provide the processes to allow fair and flexible access to land, and under what conditions do these work?

What institutions are needed to underpin the development of land markets that allow efficient use of the resource, but which respect concerns for conservation and equity?

Agricultural technology

The issues: Despite the clear contributions of formal agricultural science to the green revolution, subsequent progress in basic science and above all advances in bio-technology, and the repeated findings from economic evaluations of very high returns to investment in agricultural research — public enthusiasm for agricultural research is low. This can be seen in the marked decline in aid funds to the International Agricultural Research Centres. Why is this? One answer is that policy-makers have been distracted by the questions and dilemmas surrounding agricultural research, of which at least five can be picked out.

1. What kind of farm technology should be developed and promoted? The green revolution saw the promotion of high-input, high-output systems designed to maximise yields per unit area. Subsequently, arguments on grounds of cost and environmental impact have been made for low external input systems (LEISA). And between these two points, there are intermediate options that have their proponents.
2. Should public research focus on areas, crops and animals with commercial potential, or should it be looking to provide technology for more difficult circumstances — for example, for crops and animals suited to marginal areas, or crops and enterprises that require little or no capital and are accessible to poor farmers? Sceptics point out that it is not clear that technical breakthroughs are likely in the latter circumstances.
3. A quite different concern is the increasingly privatised world of agricultural research, where an increasing proportion of such research is carried out by large private companies. Privatisation of knowledge has tended to raise transaction costs for researchers. Finding appropriate forms of intellectual property that protect the rights of innovators and encourage investment in research, while allowing fair access to the results, is proving problematic. Debates on who owns the rights to genetic material are particularly fraught. Moreover, privatised research tends to mean research on the problems faced by commercial farmers in favourable areas, with little or no attention to the needs of poorer farmers. There may be ways to use public funds to contract private researchers to work on the problems faced by these groups.
4. Even within public sector research, the longstanding question of how to get sufficient interaction between researchers and end users, particularly when the latter are smallholders, continues to exercise the imagination. Most agree that more participation in deciding research agenda by users would improve the focus of research, but effective ways to do this are in debate.
5. Last, but not least, the potential applicability of genetically modified organisms (GMO) to the problems facing smallholders in developing countries has become a sensitive issue. Enthusiasts point out the potential for breeding to use genes from other organisms to promote traits — such as drought resistance — that are difficult to achieve through conventional crop breeding. Detractors worry that about the new genes being

transmitted to create 'super-weeds' and 'super-pests', as well as doubting that the potential of GMOs will ever be applied to problems faced by poor farmers.

With so many difficult questions, it seems that public support for agricultural technology has been blunted.

What we need to know:

- What is the likelihood of success in generating techniques appropriate for more marginal areas, and that require less capital and external inputs? Alternatively, to what extent is it simpler to change the circumstances of farmers to suit the known techniques or those that can be generated with reasonable hope of success?
- How do different forms of intellectual property affect investment in agricultural research, and access to the benefits of that research?
- How could private agricultural research laboratories be contracted to produce innovations suitable for poorer farmers?
- How can smallholder effectively participate in decisions taken for the direction of publicly-funded agricultural research?
- What have been the experiences of GM varieties of crops already planted in countries such as Argentina, China and South Africa?

Water and agriculture

The issues: Two points make agriculture's use of water a pressing concern. First, the large increases in food production seen over the last forty years or so in the developing world have been accompanied in many areas by a major expansion of irrigation. Further increases in the irrigated area hold great promise for raising yields, for reducing variations in yields, and for increasing the frequency of cropping. Second, the increased use of water for irrigation at the same time as the demand for water for urban and industrial use has been rising, means that countries are either already or soon will be facing water shortage. This context sets a three point agenda for water and agriculture, thus:

1. The efficient use of irrigation water: technical challenges. Some current forms of irrigation such as canal systems are quite wasteful of water, with losses to evaporation and seepage

in transit, and of the water delivered to fields, some not being used by the growing plants. Opportunities exist for technical improvements to improve the ratio between water used by the plants and the water abstracted. Not for nothing, when IFAD published the *Rural Poverty Report 2001*, it called for the 'blue revolution' in water technology to match the 'green revolution' of crop breeding.

2. Efficient use of irrigation water: economic and political challenges. More daunting than the technical challenges are the human ones of creating systems that allow efficient management of water, and give incentives for efficiencies. All too often irrigation schemes have been set up and run by operators who have few incentives to make the systems work well,¹⁶ or where individuals within the schemes are able to exploit their power or good fortune to ensure that they get all the water they want, while others go short.

The problems are not just of management: they can also be policy issues. In many parts of the world, irrigation water from large-scale public schemes is provided at rates that cover only a small part of the operating costs. Attempts to raise charges to provide the revenues needed to operate and maintain the schemes have usually proved impossible, faced by the implacable opposition of farmer lobbies. Once water is provided at low cost, moreover, farmers have little incentive to economise on water use.

Technical and human issues interact: when the technology and physical conditions for access to water result in very large scale schemes, the problems multiply. When the water supply is localised within small catchments, the scale of the operations allows for more efficient operations. The extreme in this is pumping from groundwater sources where irrigation can be an individual operation. Not that this solves all problems, as the third point shows.

¹⁶ Indeed Robert Wade's studies in India reveal situations where those running public schemes actually have incentives to operate the schemes unreliably. Why? By demonstrating to farmers that the supply of water can be variable, the operators are able to extract bribes from the farmers to ensure they do get their water reliably (Wade 1984).

3. *The management of groundwater resources.* Much of the expansion in irrigation seen in India and Bangladesh since the mid-1970s has been tubewell pumping from the groundwater aquifer. Almost all the aquifers in question have seen falling water levels. The aquifer is a common resource, so there is little incentive for any individual irrigator to restrict their pumping. Attempts to date to regulate abstraction, by, for example, limiting the density of wells, have met with little or no success.

What we need to know:

- How can water losses in transit be reduced? How can water be delivered to the plant root zone most efficiently? These are longstanding questions in irrigation engineering and agronomy. Improved methods are known: but often the issue is their cost. Progress here may lie with innovations, such as new materials, that lower such costs.
- How can the operation and management of large-scale irrigation schemes be improved? What is the scope for privatisation of public schemes, and for greater user participation? How can governments and farmers be persuaded to relinquish subsidies on irrigation water?
- How can a mixture of incentives and regulations be devised that will prevent excessive drawdown on the common resource of groundwater?

Differentiating agricultural growth strategies: spatial variations

The issues: Agriculture is perhaps more variable by physical context than almost any other human activity. Policy needs to reflect this. The key issue here is that of what to do in the less-favoured areas (LFA) — those parts that lack favourable physical conditions, and that are often remote as well. Despite their status, such areas are far from depopulated: substantial numbers live in these zones, and rates of poverty are usually above average.¹⁷

Options for the development of the LFA in most developing countries are limited. Indeed they might be reduced to a limited list of extensive agriculture and ranching or tourism and conservation. Given that these in many cases may only offer jobs for part of the existing population migration out of the LFA will be important for some of the population. Otherwise it

seems the LFA are destined to remain as sinks of poverty, probably dependent on transfers from more prosperous areas. The long term future of such areas may, however, be more promising. Those areas in OECD countries that were LFA one or two generations ago, and relatively poor, are often not so today, and in some cases they have become prosperous.¹⁸ There may be useful lessons from these cases.

What we need to know: How can competitive activities be developed in the LFA?

How can out-migration be facilitated on advantageous terms?

What have been the lessons from the development of such areas in OECD countries?

Differentiating agricultural growth strategies: social stratification

The issues: Evidence (for example, Jayne et al 2004 for Eastern & Southern Africa, Wiggins et al. 1999 on central Mexico) shows a surprising amount of social differentiation within villages in developing countries, even in areas where the apparent cultural norms are those of inclusion and equality. Agricultural growth implies more output marketed, yet the indications are that most of the surplus comes from a small fraction of farmers — the top third or less — with more land, labour and capital than their neighbours. The corollary is that a large part of the rural farming population is marginalised from direct participation in such processes. What is to be done about and for these rural households?

In some cases freeing up market failures in access to finance and farm inputs may expand the fraction of farmers who can participate in growth. In other cases, the answer may lie in creating jobs off the farm, rather than trying to develop their capacity as farmers. The question then becomes one of creating these jobs, and for that we need to know more about the rural non-farm economy and about labour markets. For the very unfortunate, above all those who cannot work their way out of poverty on account of age, sickness or disability,

¹⁷ According to Hazell (2002) less-favoured areas (LFA) are home to 1.2 billion rural people, mainly in Asia and Africa. Of the LFA population, some 360M live in extreme poverty — that is 30% of the total population of the LFA, but 40% of the world's rural poor.

¹⁸ The most striking cases are coastal areas and mountains of marginal agricultural potential that have subsequently become major tourist locations: the Mediterranean coasts of Spain, Croatia, and Greece; or the Alps of Austria and Switzerland.

social protection needs to be provided within the often limited means of government and civil society.

What we need to know: See the questions posed above under investment, finance and input supply, rural labour markets and the non-farm economy.

How can social protection be delivered to the non-working poor effectively and efficiently?

Summarising

Table 1 summarises the research issues reviewed and the questions they prompt.

Table 1: Key research issues and questions in agricultural and rural development

Theme	Questions
Understanding the rural economy and agriculture's place within this	
International issues: trade	<p>What will be the impact of trade liberalisation and reforms to OECD agricultural support on international markets for agricultural produce, under different scenarios of full and partial liberalisation? What scope is there for developing countries to use their room for manoeuvre in trade policy to achieve development policy objectives? What should be the negotiating positions of different developing countries in the Doha round?</p> <p>What could and should be done to assist poor countries and producers suffering erosion of preferences?</p> <p>How do changes in international prices feed through to producers in the developing world? To what extent do smaller producer experience price discounts? What experience is there of avoiding discounts or gaining premia?</p> <p>How are non-tariff barriers to trade evolving? What are their impacts on access to Northern markets for exporters from the developing world? How costly is it to comply with SPS, and how can such costs be reduced? How can influence be brought on policy-makers to remove or reduce NTBs based on excessively strict criteria?</p>
The environment: global	<p>Better models of climate change and its impacts on the weather: more reliable estimates, broken down by decade and by agro-ecological region</p> <p>What are the implications of climate change for farming and farmers? — migration and land markets, re-investment in fixed facilities, re-skilling</p> <p>How can farmers cope with increased variability in weather?</p> <p>How have farmers coped with climate change in the relatively recent past (e.g. European farmers and 'little Ice Age')?</p>
Migration	<p>What are the flows of migrants? We need more data on numbers, types or person, purpose and timings.</p> <p>How can migration be facilitated? What information do would-be migrants need?</p> <p>How can migrants be supported, in terms of protection of their rights, and access to public services?</p>

	How can remittances be transferred at effectively and economically? How can we encourage remittances to be invested in people and production?
Labour markets	<p>How do different forms of rural activity create demand for jobs, and how, on the supply side, do the interactions of population growth, migration, and patterns of entry and withdrawal into labour markets — child and teenage labour, retirement ages, females choosing to focus on domestic work — affect the numbers seeking work?</p> <p>It would be good to know more about the evolution through time of demand and supply of rural labour, and the consequent rural wage rates. From this it should be possible to identify the conditions under which different patterns emerge.</p> <p>Labour market segmentation: to what extent does this arise, and what are the barriers that prevent markets from being more integrated?</p> <p>To what extent do employers exploit their bargaining power to push down wages? How can this can be countered by worker organisation? What are the impacts of official attempts to influence and regulate the working of such markets by stipulating working conditions, taxing employment, establishing legal minimum wages, or convening formal meetings to negotiate wages and conditions between employers and worker representatives?</p>
The rural non-farm economy	<p>Where are the jobs? Rural manufacturing, commerce, private services, public services — under different contexts. How are they linked within the RNFE and to agriculture?</p> <p>What are the key conditions for the growth of rural manufacturing, commerce and services —physical infrastructure, finance, business development services, etc. — in different contexts?</p> <p>What are the possibilities for clusters to allow the growth of small rural businesses, or other forms of industrial organisation such as sub-contracting and industrial enclaves, to allow the growth of rural manufacturing?</p>
The rural environment	<p>What are the processes, impacts and costs?</p> <p>What are the human motivations and capacities for mitigating adverse processes and for investing in conservation of key and valued resources?</p> <p>How can we devise and implement policies that ensure sustainability of the environment and that key resources are conserved?</p>
Agriculture itself	
Overall agricultural strategy	<p>Should agricultural development proceed through sequences, with different priorities for different stages? How should such stages be identified? And how can transitions be made effectively from one stage to the next?</p> <p>What are the lessons from success in agricultural development, particularly in countries that have graduated from international aid?</p>
Spatial variations	What do we do in the LFA?
Social stratification	What can we do with the poor?
Markets and demand	How can we get useful information on markets and prices to producers and intermediaries in the marketing chain? How better to ensure that information on prices, quantities, grades and other conditions flows through the chain? In

	<p>particular, who should collect and disseminate such information, and how?</p> <p>How can we encourage economies in marketing chains, including cutting transport costs, so that farm gate prices are a higher proportion of market prices?</p> <p>How can the most be made of opportunities for trade between developing countries?</p> <p>Concerning changes in marketing chains, we need better understanding of how marketing chains work, where market power lies and how it is exercised, with what outcomes for prices and standards; and how this varies in different market structures and contexts. How can small producers in particular adapt and thrive when dealing with demanding new buyers in export and supermarket chains?</p>
Investment, finance and input supply	<p>What are the options to resolve such failures, how and why they have succeeded or failed, and in what conditions?</p> <p>Who might take the lead on this — government, large companies, farmer associations, NGOs, etc., — and, again, under what conditions?</p> <p>How can promising initiatives in micro-finance be scaled up and linked to large-scale formal financial agencies, such as the banks?</p> <p>What are the political conditions under which investors feel confident that they will not be subject to governments suddenly and apparently arbitrarily altering market conditions? What makes for investment climate in rural areas that allows private entrepreneurs to invest with confidence?</p>
Farmer organisation	<p>How can associations make wise decisions on the mix of lobbying, vertically-integrated actions in the supply chain, and horizontal co-ordination of members? What conditions make each of these functions successful?</p> <p>What forms of operation and procedures are compatible with transparency and accountability to members?</p> <p>How can associations grow with sufficiently limited membership, functions and procedures that they can succeed — while being large and ambitious enough to make a difference? And how does this change as it grows?</p> <p>What support is needed in the early stages, who can best offer this, how should this be funded, and at what point should support be withdrawn?</p>
Land	<p>What institutions can provide the processes to allow fair and flexible access to land, and under what conditions do these work?</p> <p>What institutions are needed to underpin the development of land markets that allow efficient use of the resource, but which respect concerns for conservation and equity?</p>
Agricultural technology	<p>What is the likelihood of success in generating techniques appropriate for more marginal areas, and that require less capital and external inputs? Alternatively, to what extent is it simpler to change the circumstances of farmers to suit the techniques on offer or that can be generated with reasonable hope of success?</p> <p>How do different forms of intellectual property affect investment in agricultural research, and access to the benefits of that research?</p> <p>How could private agricultural research laboratories be contracted to produce innovations suitable for poorer farmers?</p> <p>How can smallholder effectively participate in decisions taken for the direction</p>

	<p>of publicly-funded agricultural research?</p> <p>What have been the experiences of GM varieties of crops already planted in countries such as Argentina, China and South Africa?</p>
Agriculture and water	<p>How can water losses in transit be reduced? How can water be delivered to the plant root zone most efficiently? These are longstanding questions in irrigation engineering and agronomy. Improved methods are known: but often the issue is their cost. Progress here may lie with innovations, such as new materials, that lower such costs.</p> <p>How can the operation and management of large-scale irrigation schemes be improved? What is the scope for privatisation of public schemes, and for greater user participation? How can governments and farmers be persuaded to relinquish subsidies on irrigation water?</p> <p>How can a mixture of incentives and regulations be devised that will prevent excessive drawdown on the common resource of groundwater?</p>
Spatial variations: less-favoured areas	<p>How can competitive activities be developed in the LFA?</p> <p>How can out-migration be facilitated on advantageous terms?</p> <p>What are the lessons from the development of LFA in OECD countries?</p>
Social stratification	<p><i>See the questions posed above under investment, finance and input supply, rural labour markets and the non-farm economy.</i></p> <p>How can social protection be delivered to the non-working poor effectively and efficiently?</p>

Choosing a Research Agenda

What are others doing?

Ideally, the agenda proposed needs to be compared to a reasonably reliable and comprehensive review of the research that has been carried out recently, in progress or planned for the near future. Unfortunately, no such review exists and without committing much time and effort,¹⁹ only a broad outline can be produced.

Two things have been done to inform this scoping exercise. One, a brief review of the research in agricultural and rural development carried out or commissioned by some leading donors (and one donor-funded research institute, IFPRI) — multi-lateral, regional and bilateral — has been assembled from information on web-sites. The amount of detail provided varies widely, making it difficult to judge the extent of coverage of topics, but the broad outlines of donor interests are visible.²⁰ Most of the donors reviewed have substantial interests in agricultural and rural development, with three perhaps surprising exceptions — the regional development banks for Africa, Asia and Latin America. Their research interests appear to be mainly concerned with macro-economic topics, investment, health, education and other social investments.

Two, the International Bibliography of the Social Sciences (IBSS) data base that reports academic publications has been searched for the period 1995–2005 to look at the number of

¹⁹ Given more time and resources, what might be done? Many of the bodies that finance research produce reports, plans, and statements of priorities for future funding. These could be reviewed. A recent example of such a review comes from USAID which commissioned consultants to do precisely this for the field of agriculture and natural resources. The report identifies seven general themes that other bodies saw as priorities, with more detail by geographical region (*USAID, 2005, 'Agriculture and natural resources management research. Priorities desktop review', First Draft, 31 May 2005*). This review was not that useful for current purposes, since the focus was on natural science in first instance, with social science very much a second consideration. An alternative, or complementary, exercise would be to survey leading thinkers in the field and gather their opinions on priority topics and those that are under-attended.

²⁰ Some topics featured on donor lists of priorities are not on the list proposed. The main examples are food security and nutrition. Why are these topics not included in the first section of this report? Largely because success in agricultural and rural development will go much of the way to resolving problems of food security — both by raising incomes of many of the poor, and by pushing down the prices of basic foods. Nutrition is a more complicated matter, where health, water and sanitation matter more than most people think. To keep matters simple I have not addressed nutrition issues here.

publications in the different fields suggested using relevant search terms. This is imprecise since without reading the abstracts of the hits generated, one cannot distinguish between articles that address the search term centrally, and those that only touch upon it. It is also difficult to separate articles that deal with developing countries from those that are focused on OECD countries: the term 'developing' does not discriminate well.

Putting these two exercises together produces the summary seen in Table 2.

Table 2: Research topics and attention

Topic	Donors with particular interests	IBSS search, 1995–2005, in title, abstract, keywords — search terms indicated
International trade and markets	World Bank, FAO, IFPRI	Trade + agric* 1,465 Trade + agricultural* + developing 125 Non-tariff + agricultural* 481
The global environment	DFID, CIRAD	Climate + change + agric* 130 Climate + change + agric* + developing 17
Migration	World Bank, DFID	Migration + developing 226
Rural labour markets		Rural + labour market* 193 Rural + labour + market* in Title field only, 32
Rural non-farm economy	World Bank, IFPRI	Rural + (non-farm or non-agric* or off-farm) 574 Rural + (non-farm or non-agric* or off-farm) + developing 43
Rural environment	FAO (sustainability), IFPRI, CIRAD, SIDA	Rural + environ* 1,066 Rural + environ* + developing 61
Agricultural strategy	IFPRI	Agric* + strategy 215 Agric* + strategy + developing 16
Markets & demand	IFPRI, CIRAD	Demand + (agric* + food) 658 Demand + (agric* + food) + developing 36
Investment, finance, input supply	World Bank (finance)	Input* + (farm or agric*) 294 Financ* + (farm or agric*) 551
Farmer organisation	IFPRI, CIRAD	Farm* + (association or cooperat*) 382
Land	World Bank	Land + (tenure or reform) 2,127 Land + (tenure or reform) + developing 72
Agricultural technology	World Bank (extension), IFAD, IFPRI, USAID, DFID, CIRAD	(Agric* or farm) + technology 892 (Agric* or farm) + technology + developing 82 Extension + (agric* or farm) 204
Agriculture and water	World Bank, CIRAD	Irrigation 727 Irrigation + developing 21 Groundwater 191

Less-favoured areas	[Not clear that any donor singles out such areas for specific attention, but it is known that some of them do address this issue — IFPRI being an example]	(Agric* or rural) + (less-favoured or low-potential) 849 (Agric* or rural) + (less-favoured or low-potential) + developing 65
The rural poor	All, in some respects	(Agric* or rural) + poor 610 (Agric* or rural) + poor + developing 85

Certain topics clearly already get plenty of attention. From the list above agricultural technology, international trade, rural environment and land tenure appear well served. At the other end of the spectrum, some topics seem to get little attention: rural labour markets and agricultural input supply (other than finance) would be good examples. Rather surprisingly, climate change and its effects on agriculture appears to have received little attention. This may be a result of using IBSS, a social science search engine, since there may be a larger volume of work classified under natural science.²¹

How much does research and evidence count?

Another criterion for choosing a research agenda is whether studies and the evidence they generate are likely to be used for the benefit of the poor. The extent to which evidence influences debates can be seen to depend on two things. One, the extent to which the matter is politically contentious: some matters are sensitive, with opinions polarised, where it seems that further information will make little difference to the positions held. The other is the extent to which the issue allows for pluralism and action by persons other than the state, or whether by its very nature, the state must make decisions that apply to all. An example of the former might be agricultural technology — all kinds of agencies may cross varieties to be produce a better cultivar, breed a bigger bull, or modify a plough: similarly private companies, NGOs, farmer groups as well as research stations funded by the state — and farmers may try out the different technical improvements on offer as they see fit. For the latter case, an example might be an import tariff: only the state can set such a tariff and administer it, and once in place it affects everyone within the country.

²¹ Google Scholar reports 2,400 hits for "climate change", agricultural, and "developing country"; and more than 27,000 if "developing country" is dropped.

How do the topics suggested measure against these two considerations? Table 3 presents an interpretation.

Table 3: Research issues, their political sensitivity and the scope for pluralism

Topic	Polarisation of debate	Scope for plural action
International trade	High: major divisions on trade policy amongst both politicians and civil society Trade negotiations highly sensitive and subject to national and sectional interests	None: trade rules are set at national level, and increasingly are bound to international agreements Some: helping farmers prepare for and adapt to changes in trade rules
The global environment: climate change	Highly sensitive on policy responses to the emerging scientific evidence with national and sectional interests to the fore	Little. While all may contribute in some way to reduced emissions, substantial change awaits concerted action across nations Some: helping farmers prepare for and respond to changes in climate
Migration	International migration politically sensitive. Internal migrations much less controversial, although typically official opinion prejudiced against movements	Some scope for local level experiments in supporting migrant rights, information provision. Otherwise, national regulations apply
Rural labour markets	Low. Some sensitivity over minimum wages, child labour, female wage discrimination	Little. Labour market Policies are mainly national. Some scope for local action in providing information, organising labour, brokering agreements
Rural non-farm economy	Low (Squabbles amongst academics excepted!)	High. Much room for experiments in infrastructure, business services, attracting investors, etc. Much depends on private sectors hence room for highly diverse experiences and innovations.
Rural environment	Opinion often polarised and entrenched on the extent and seriousness of damage, and on the causes	High. Much scope for local persons, agencies, organisations, companies to innovate in conservation. But some actions may need national legislation
Agricultural strategy	Varies by country, and political regime. Ideas are moderately entrenched — e.g. the benefits of large versus small farms	Low. By definition the strategy needs to be national
Markets and demand	Low (Squabbles amongst academics over changing supply chains!)	High. Most of marketing is private: much scope for innovations
Investment, finance, input	Low	High. Since so much of this depends on private sector activities, much room for

supply		experimentation. Some need for national regulation as with financial services
Farmer organisation	Low, although some entrenched views on the purpose and roles of farmer co-operatives	High. Plenty of room for local innovation.
Land	Medium to high: entrenched views on the need for freehold tenure are common Redistribution extremely sensitive	Low. Tenure frameworks need the backing of national legislation
Agricultural technology	Some topics highly sensitive: GM, intellectual property regimes Low for most innovations	Low for framing regulations on IPR, bio-safety High for actual innovation itself
Agriculture and water	Political economy of irrigation schemes often sensitive	Medium: scope for innovation on particular schemes
Less-favoured areas	Low	Medium: room for local organisations and local governments to experiment
The rural poor	Low, although attitudes to the poor and the causes of poverty often entrenched	Medium: scope for action by civil society to alleviate poverty But many forms of social protection need national programmes and regulations

Making some simplifications the fifteen topics can be arranged into four configurations, thus:

<ul style="list-style-type: none"> • Polarised debate, no scope for pluralism 	<ul style="list-style-type: none"> ▪ International Trade ▪ Climate Change ▪ <i>perhaps</i> Agricultural Strategy ▪ (Agricultural Technology — GM, IPR)
<ul style="list-style-type: none"> • Polarised debate, scope for plural response 	<ul style="list-style-type: none"> ▪ Rural Environment ▪ Land ▪ Water
<ul style="list-style-type: none"> • Open debate, no scope for pluralism 	<ul style="list-style-type: none"> ▪ Labour Markets ▪ Rural Poor
<ul style="list-style-type: none"> • Open debate, scope for plural response 	<ul style="list-style-type: none"> ▪ Trade: helping farmers prepare and respond ▪ Climate change: helping farmers prepare and respond ▪ Migration ▪ Rural Non-Farm Economy ▪ Markets & Demand ▪ Investment, Finance & Input Supply ▪ Farmer Organisations ▪ Agricultural Technology (except GM, IPR) ▪ Less-Favoured Areas

If the aim of the research programme is to be able to produce ideas that can readily be fed into debate and can lead to action programmes in the short run, then clearly topics in the fourth category are to be preferred. That, of course, is to set aside considerations of the importance of particular issues and the medium to long-term pay-offs that might arise to research. In particular, the degree of political contentiousness of particular issues clearly varies by country, but it also varies through time. History shows that the received wisdom on contentious topics can move, and often with major shifts in a short period after long periods of stand-off. When those moments arrive, it can be highly useful, if not critical, to have the evidence necessary to inform more open debate.²²

How do research priorities vary by place and time?

Clearly context matters greatly when formulating development policies and programmes, and when planning the research that might support such planning. But how might we go about classifying differing circumstances? Box 3 sets out some of the schema used.

<p style="text-align: center;">Box 3: Classifying development circumstances</p> <p>Typical schemes used to differentiate agricultural and rural conditions include:</p> <ul style="list-style-type: none"> ▪ Agro-ecological zoning, based on assessment of potential for farming based largely on soils, topography and climate; ▪ Access to market and pressure on resources, as used by Snrech (1995) to differentiate West African farming systems; ▪ Agricultural potential, market access, and population density as used by Pender, Place & Ehui (1999, quoted in Wood et al. 1999), to distinguish between zones in the East African highlands. <p>In the wider development debates, other distinctions have been drawn, for example:</p> <ul style="list-style-type: none"> ▪ By geography — for example, recent cross-country comparisons of Africa's growth have divided countries into coastal, land-locked and rich in minerals (O'Connell 2005); ▪ By wealth — where countries are sorted into groups ranging from least-developed to low-income and middle-income; ▪ By stages of growth — in which countries are seen as developing from some initial highly under-developed state, through intermediate stages, to developed nations. These ideas stress that different policies may need to be followed in the different stages (see Adelman

²² An example of this arose in Nicaragua in 1979, when after decades of rule by the Somoza family, the Sandinistas took over. The aims of the revolution were clear enough, a central plank being to improve the living conditions of the workers and peasants. But when it came to policy for agriculture, central to economy, the ideas of the leadership were influenced more by ideology than evidence. The strategy followed emphasised the role of large-scale state farms using much capital and machinery, and played down intermediate technologies and the contribution of smallholdings. During the first five years of the new regime, researchers on rural Nicaragua strove to convince the government that small-scale farms had much to contribute. But by the time their views prevailed, so much damage had been done that the revolutionary economy was crippled.

& Morris 1997). The same idea has been proposed for agricultural development by Dorward et al. 2004, in which they propose the following stages:

1. Establish the basics: roads, irrigation, research & extension, possibly land reform — creates the conditions for profitable intensification;
2. Kick-start the markets — seasonal finance, input supply, reliable output markets — that leads to widespread effective demand from farmers for inputs and marketing of outputs; and,
3. Withdrawal when effective private sector agents enter the markets.

As can be seen, there is no commonly recognised way to classify the circumstances of development. The remainder of this section will focus on some critical differences, and draw out implications for agricultural and rural development policy priorities.

Land potential

Where land potential is high, there is always the possibility for intensified farming, producing for the market. Conversely in areas with low potential for crop farming, intensive agricultural development is not going to be the road to development. Agricultural systems are likely to be best developed as extensive operations, keeping costs to a minimum and accepting low productivity per hectare. Development efforts may better be directed at other sectors — tourism and recreation, conservation — for example. When such lands are relatively heavily populated, migration to urban areas and other regions may be an important option.

Settlement density and ease of movement

Densely settled areas have advantages in lower costs of roads for every person served, market centres tend to be frequent to the point where practically all rural settlements are peri-urban, and information tends to flow more readily. These conditions favour intensive agriculture, often producing higher-value goods for urban markets. At some point, population density exceeds the ability of farming to provide livelihoods for all, and the non-farm economy, albeit linked to agriculture, becomes important in the rural economy and may come to dominate in jobs and value-added.

Lightly-settled areas have the advantage of plentiful land per household, but otherwise tend to suffer the costs of distance. At early stages of development, for lack of public investment, it is likely that such areas will have few and poorly maintained roads. The costs of transport

will limit possibilities to production of staples for the local market plus a few goods that have relatively high value to their weight and bulk and that are not perishable. Topography and land-locking interact with these variables. The costs of distance increase rapidly when the terrain is difficult — mountains are the most common example. Being remote from the sea reduces the opportunities to participate in international trade.

Human dimensions: education and social division

Levels of education amongst the rural population make an important difference in terms of the ability to undertake skilled work in non-agricultural sectors, to access information from beyond the village and to make good use of it.

Social divisions — by class, caste, gender, age, ethnicity, language, religion, etc. — have marked implications for development. Homogenous and egalitarian societies have the advantages of allowing fluid participation in markets of all kinds, of easier transmission of information between groups, and of higher levels of trust and social capital that facilitate co-operation and interaction of all kinds. Social divisions are often closely related to high inequality in access to land and water, and to the existence of institutions that tend to lock people into their current situations — for example, interlinked transactions with heavily exploitative terms of exchange, debt bondage — where a debt in capital is redeemed through labour — being an extreme example.

The state of economic development in general

The development of the urban and industrial economy affects the level and nature of demand for agricultural produce, the availability of investment funds, and the resources available to the state to invest and otherwise to foster development in rural areas. Economic development is also likely to correlate with the state of key economic institutions, such as financial systems, the availability of insurance, the security of contracts, and the existence of well-defined grades and standards.

It is easy to appreciate the diversity of development contexts: this list has four main dimensions, with sub-categories that could easily give us no less than seven variables, each

of which might then be categorised in two or more states giving a minimum of 128 different combinations!²³ Small wonder, then, that we insist that the precise specification of policy has to be tailored to context. This may seem unhelpful, but let me return to this issue when the research agenda has been pared down so making discussion more tractable.

The proposed agenda for IDRC

The main criterion used here to propose an agenda is that of topics that currently receive relatively little attention, but which are considered important. As it turns out, most of these topics are not politically controversial, and in most cases there is scope for plural action. Here are the two clusters of topics proposed:

- **Rural labour markets** — with linked consideration of **migration** and the **rural non-farm economy** that so closely influence the labour markets. The labour markets can be seen as important on two counts. One, they act as barometer of the rural economy: developments in the level of demand for workers and the wage rates paid should be quite sensitive indicators of changes in the rural economy, some of which may not be easy to observe. Two, they directly affect the livelihoods of some of the poorer groups in the rural areas who rely heavily on job offers and wage rates for their incomes; and,
- **Agricultural input supply, produce marketing and farmer organisation.** With the large majority of governments committed to allowing markets to operate, their functioning has crucial to farmers' chances of investing, improving productivity, becoming more competitive and earning more from the farm. Yet the evidence from many parts of the world is that some key markets are failing, for clear and, it has to be said, predictable reasons. Finding the institutional innovations to solve such blockages, in some cases through the operations of farmer associations, has become a central challenge in agricultural and rural development.

²³ If, as probably more realistic, each variable is defined as having three categories — try grading, for example, any region or country by land potential: high and low potential areas can be seen, but an awful lot of territory is neither high nor low, so a middle category, at very least, is needed — we have then no less than 2,187 possible combinations!

Before moving on to explore how a research programme might be developed around these issues, three questions need addressing: how do these relate to poverty reduction? How much are these new themes, or old questions still not answered? And, to take up again the subject of the previous section, to what extent are these relevant in particular development circumstances?

The themes chosen and poverty reduction

How much do the proposed clusters constitute an agenda for researching agricultural growth and rural development, and how much for poverty reduction? Debates on growth and poverty reduction have recently intensified as the lessons of the 1990s have been absorbed. At the beginning of that decade, there was a strong consensus, the so-called Washington Consensus, that economic growth would soon be restored to the sort of historical levels seen in the 1950–1973 period, thanks to the adoption of an agenda of macroeconomic prudence and encouragement of private enterprise within liberalised markets, including international markets. Growth would do much to alleviate poverty, although it would happen faster if economic growth was labour-intensive. For the rest, government was to invest in human capital — the lesson learned from the appraisals carried out in the 1980s of the East Asia growth experiences; and otherwise provide safety nets for the poor.²⁴

But the 1990s threw up some surprises and disappointments. The economic orthodoxy promoted by the Bretton Wood institutions, and readily subscribed to by most of the other donors, did not work in large swathes of the developing world. In Latin America, for example, many governments put aside their longstanding reservations about markets and adopted the prescriptions from Washington. Growth was often disappointingly sluggish: better than the 1980s, to be sure, but not fast enough. Bolivia is a case in point: despite taking the measures recommended, economic growth was modest.

Africa's situation in the 1990s was worse, in some cases for clear reasons — such as civil conflict or outrageously poor governance. But in those countries that where these conditions did not apply, and where the advice from the Bank and Fund was followed, growth was often

²⁴ The World Development Report of 1990s spelled out this thinking,

slow. Ghana would be an example. It became increasingly apparent that in Africa, liberalisation was not working owing to deep and extensive market failures that had not been foreseen by the Consensus.

Meanwhile in Asia, many countries continued to see much more rapid growth — and here the pleasant surprise was India that finally threw off the shackles of the ‘Hindu growth rate’ to become one of the world’s fastest growing economies. Moreover, the Asian growth stars for the most part achieved their success with heterodox policies. The series of financial crises that struck liberalising countries following orthodox advice on economic policy — Mexico, Argentina, Russia, Indonesia — in the 1990s caused further reflection about the universal application of advice from Washington.

By the end of the decade, support for the Washington Consensus was crumbling, despite talk of ‘modified’ or ‘augmented’ versions of those ideas. In the last two years, papers coming from the World Bank frankly admit that the one-size-fits-all prescription for growth was an error: much more has to be done, it is now argued, to take fundamental principles and turn them into operational policies at national levels. An emerging focus here is on the workings of economic institutions, considered as being particularly subject to national variations, and the need to develop them strictly in accordance with context.

Where is poverty in these debates? The search for ‘pro-poor growth’ is active. But the understanding of what makes for this is fairly weak. Economic growth matters, a necessary but not sufficient condition for poverty reduction. It helps if inequality is lower, since this increases the benefit to the poor of any given rate of overall growth. Some Bank documents have stressed ‘empowerment’ of the poor, but what this means in practice, how it influences poverty and how it can be turned into operational policies are far from clear.

On agricultural development, the 1990s were a decade that saw a retrenchment of interest by most donors and many governments — reflecting in declining fractions of national and aid budgets devoted to the sector. This applies particularly strongly in the case of Africa.

Whether the one thing led to another is another question,²⁵ but the record of agricultural growth in Africa in the 1990s continued to disappoint. So what do we understand about the relation between agriculture and poverty reduction? Three propositions underlie the thinking in this document, namely:

1. One, if agriculture does not grow at rates of 1–2% a year ahead of population, the rural economy will not create the jobs and incomes to reduce poverty. In most of the poorer rural economies of the world, with Africa to the fore, there are simply no other activities large enough to provide the jobs and incomes. Critics will point to the apparently rapidly increasing shares of rural incomes coming from the non-farm economy — commonly shown in household surveys to be at least 40% of average household earnings, and sometimes as much as 60%. But how much of that non-farm activity is related to agriculture, through linkages in providing inputs or processing and marketing outputs, or through the consumption of farmers with more money in their pockets? Unfortunately this debate cannot be resolved as it should be, by reference to evidence: we simply do not have enough detail of the components of the non-farm economy. Those of us who believe that in most cases a thriving non-farm economy arises from a successful farming sector, tend to rest our case upon a few well-known studies at district level;²⁶ and on casual observation that variations in rural prosperity from district to district seem to correlate closely with the vigour of local farming.
2. In most cases large reductions in rural poverty do not come about directly through agricultural growth — most growth, even when coming from small holdings, comes from farms that have more than average resources and are operated by households that are not poor. The strongest effect often comes through the rural labour markets as and when demand for unskilled workers outstrips supply. Much of the increased demand may come from work off farms, but often in activities stimulated by agricultural growth. A couple of other factors probably play a significant role in reducing poverty: one is the

²⁵ Interestingly, the record suggests little correlation between aid donor priorities and agricultural growth rates. The 1990s growth rates for African agriculture were modest, but they were far better than those seen in the period 1970–1985, when much more funding was directed to agricultural development programmes.

²⁶ Such as Hazell & Ramasamy's (1992) study of the impact of green revolution technology on a handful of villages in North Arcot, Tamil Nadu between the early 1970s and the early 1980s.

lower cost of food in real terms that agricultural growth can bring; the other the effect of migration in reducing the rural labour supply and in remitting funds to the rural areas.

3. Economic growth effects can deal with no more than a part of rural poverty: specifically it can help the working poor. Unfortunately, a substantial fraction of the rural poor are not able to work, hit variously by ill health, old age, disability, accidents and violence, addiction to alcohol and drugs. Helping them depends on social welfare. In the long run, economic growth makes it increasingly possible for the state to offer comprehensive support to those unable to work their way out poverty.

In this line of thinking, the two clusters focus on the two critical mechanisms for reducing rural poverty: getting agriculture moving, and therefore stimulating both the wider rural economy as well as the national; and facilitating the spread of benefits through the rural economy and to the rural poor in particular, through the market for unskilled rural labour.

The novelty of the themes

While none of these topics is new, some have taken on greater importance of late. For example, until recently in Africa, rural labour markets were not well developed — other than for particularly densely settled areas, and for some migratory flows. For the most part, flexibility in labour arrangements was achieved by social arrangements — for example, by forming large households extended in generations as well as across cohorts through polygamy, collective work parties, and in some cases by forms of bondage. But as population has risen across the continent, and densities rise to a point where increasingly inheritance leaves households with plots so small that they cannot provide a living, people look to the labour markets for their livelihoods.

Migration appears to be on the increase, fuelled by greater information on opportunities, and in some cases, by falling costs of transport.²⁷ Perhaps the most striking features of migration are movements within countries, especially the extent of commuting. As rural areas become

²⁷ This should not be exaggerated: the 19th C saw massive movements of peoples across continents as settlers headed from Europe to the Americas, Australia and New Zealand, and to some parts of Africa; and as indentured labourers left India for Malaya, Fiji, Mauritius, East Africa, South Africa, Guyana and Trinidad. There are few contemporary international movements on this scale — Mexicans to the United States might be a contemporary equivalent.

more densely populated, the economy is likely to become — at least initially — more diversified with a greater range and depth of non-farm activity. Again it is probably in Africa where these developments are most pronounced in the last twenty years or so.

The importance of institutional innovations in the supply chains that link producers to markets, that provide finance and inputs has never been higher, largely since the orthodoxy of liberal markets and minimal state presence has meant that public arrangements to run such chains have been curtailed abruptly. By and large, outside of the more well developed rural areas, the private sector has been unwilling or unable to organise and operate the chains — above all where transactions involve any risk, or require much capital, or both. In parts of Africa in particular, farmers have seen formal sources of credit disappear, fewer inputs such as fertiliser and seed in stores, and little or no means to acquire them in any case.

Of the topics not prioritised, those that have been rising on the agenda include climate change, concerns over land tenure in areas where population has built up — above all in Africa, making water allocation efficient and perhaps equitable as well, and, within the world of agricultural technology, debates on genetic modifications and intellectual property rights — the former a result of scientific advances, the latter a result of the increasingly privatised nature of research.

Relevance to contexts

In what ways do the different research topics suit different contexts? Table 4 describes some of the ways in which the selected research issues may vary by context.

Table 4: Research issues related to context

	Land potential	Settlement density, ease of movement	Education, social divisions	State of development of the economy
Rural Labour Markets	Likely to be poorly developed, of minor importance in low potential areas	Higher density makes markets larger, as does ease of movement	Where education is low and social divisions deep, labour markets likely to be segmented, discrimination more likely, markets likely to fail or be inequitable	Labour markets wider and deeper as economies develop, owing to a wider range of potential employment
Migration	Out-migration likely to be strong in low potential areas	Densely-settled areas likely to see commuting to urban centres Remote areas may have higher rates of out-migration	Low education restricts migration, social division may allow exploitation of migrants from disadvantaged backgrounds Migration, however, can enhance the education of migrants and give the confidence to challenge prejudice and discrimination	More developed economies offer more opportunities for movement. Conversely, lack of opportunities in less developed settings may lead to distress migration
Rural Non-Farm Economy	RNFE likely to be relatively more important in low potential areas, but may still be smaller in size than in higher potential areas.	Higher density reduces transport and transactions costs in RNFE: possibilities for concentrations of RNFE in rural market centres, emergence of industrial clusters	Low education blocks off opportunities for lack of skills, information, contacts. Social divisions can block possibilities, but may open others ²⁸	More developed economies offer more opportunities. Some RNFE activities likely to decline with development: e.g. cottage manufacturing, while services increase

²⁸ Here is a curiosity: India's caste divisions that restrict formerly undesirable work to lower castes can throw up opportunities for the latter when skills acquired in menial work suit a new and better-paid occupation — for example, digging ditches is low paid; digging trenches for TV and internet cables is another matter.

Marketing & Input Supply	In low potential areas, low transaction volumes pushed up costs of intermediation, makes markets more likely to fail	Sparsely settled areas likely to see transport costs loom large, overall costs of intermediation likely to be higher, markets more likely to fail	Low education restricts flows of information, social divisions lower trust and push up transactions costs, market more likely to fail	More developed economies more likely to have economic institutions in place to reduce transactions costs
Farmer Organisation	May be less scope for farmer organisations in low potential areas	Low settlement density makes it harder to assemble a critical mass of members: inability to meet face to face regularly intensifies problems of democracy, member control over staff and elected officials	Highly challenging where most farmers lack education and where social divisions are deep	In more developed economies there may be more scope for lobbying, as well as for the less laudable aim of outright seeking of rents and privileges

The results are perhaps to be expected. Where land potential is low, studies looking at migration, the rural non-farm economy and labour markets are likely to be more useful than those dealing with improved marketing and input supply chains. In the other three dimensions, where conditions are adverse, migration stands out as key livelihood option, and one that even has the possibility to reduce some disadvantage in education and social division. Market failures are more likely under conditions of adversity; but on the other hand, the value of institutional innovations to offset them, including farmer associations, may be high.

Researching the proposed themes

Rural labour markets, migration and the rural non-farm economy

The agenda can be split into two elements:

a. Syntheses and cross-country comparisons. This is particularly important for rural labour markets, less so for migration and the non-farm economy where some impressive overview papers have been produced within the last five years. The aim here would be to bring together existing knowledge, and if possible organise this within a framework that helps to set research questions and hypotheses.

There may well also be scope for quantitative cross-country comparisons, drawing on the database of wages maintained by the ILO. These data might be used, for example, to look at relations between wage rates and other development indicators — poverty head-count ratios, income per capita, and human development indicators and indices. This could be done both across country, but also through time.

b. Country cases. Much of what matters in these fields is highly contextual, so case studies at national and sub-national levels are indicated: they allow rich detail to be captured. The aim would be to explain changing levels of wages and demand for labour, focusing on unskilled labour, looking for plausible explanatory factors, including the impacts of policies. As a first step, exploratory studies might be commissioned from nationally-based research groups to examine the evolution of rural labour markets, in the context of migration and the development of the non-farm economy, over a period of at least the last 25 years and preferably longer. Taking the cases of half a dozen or so countries could be instructive. Box 4 suggests some interesting cases.

Box 4: Suggested countries for exploratory studies of rural labour markets
<p>India. Important owing to high rates of rural landlessness that makes the rural labour market critical for the livelihoods of the rural poor. India has a tradition of large-scale national surveys that collect much data, including rural wage rates. Given India's federal (union) structure of States, important differences in policy apply across the States, as well as all manner of differences of context, so that there is the possibility for useful cross-State comparisons within India.</p> <p>Bangladesh. Similar to India, but with higher rates of poverty, a more rural economy, with heavy pressure on the land and much (functional) landlessness so that rural wage rates are</p>

critical to welfare. During the 1990s improvements to rural welfare were observed in many parts of rural Bangladesh. The gains are considered to come from a booming rural non-farm economy, albeit much linked to farming, and from migration. Since Bangladesh has in recent history been one of the world's poorest countries, lessons from this case should produce inspiration for other very poor countries.

Egypt. As late as the 1960s, the fate of the rural landless ('tarahil') in Egypt was regarded as one of the most miserable in the world. But from the late 1960s onwards, determined efforts by the government to employ gangs of tarahil on public construction and land reclamation programmes, plus the burgeoning opportunities for work in Saudi and the Gulf transformed rural wage rates. Subsequently, however, rural wage rates have fallen, apparently almost to their former levels — for reasons not known to me.

South Africa. Few countries in the world have seen such dramatically different policy regimes for wage labour. The apartheid government tried to control labour and ensure that mines and farms had access to as much unskilled labour as they needed at low wages. This involved not only controlling South African labour, but also hundreds of thousands of migrants recruited from across Southern Africa. With the liberation in the early 1990s many of the controls were abandoned, and unions gained more power. Not that this has led to many more jobs: on the contrary, unemployment of the unskilled stands at very high levels.

Kenya. Densely-settled parts of rural Kenya, such as Central Province, have for half a century seen many households dependent in large part on labouring for others. There is a rich story to explore here, set against the context of the varying fortunes of Kenyan agriculture and the halting attempts at urban and industrial development.

Thailand. During the last forty years or so, rural Thailand has been transformed to a point where poverty levels are reportedly very low indeed — in a country that had the same level of development as Ghana at the independence of that country in 1957. Thailand has seen vigorous development of small-scale commercial farming, leading it to become one of the world's leading exporters of farm produce, and has also seen much growth of the rural non-farm economy. Just how this has been achieved in a country with apparently few special advantages — no oil or minerals, for example — is worth learning.

Mexico. Now a middle income country, Mexico still has a persistent and widespread problem of deep poverty in its rural areas. Over the last half century the government has tried several different strategies for agricultural development and rural poverty reduction, set against a varying national context that has seen successful industrialisation (1940s to 1970s), followed by a miserable era of debt and adjustment, and a bold attempt at integration with the US economy. Migration to the 'other side', the USA, is increasingly important in rural Mexico.

In terms of structuring a programme, a promising configuration would consist of a node research institution plus country partners. The former would undertake cross-country quantitative studies and synthesise existing understanding. In each country, a locally-based team would carry out analyses specific to their areas, but would be linked to the other teams in a confederation co-ordinated through the node. Occasional meetings of all concerned to share results to date and to plan the next steps would serve to co-ordinate the work.

The programme might be developed in stages. Stage One would see synthesis, initial rounds of quantitative work, and the first draft of country case studies. One year might be

sufficient. Stage Two would draw on the insights to produce sharper and more focused research questions and hypotheses, and then carry out more formal research to answer and test these. Two years would be allowed.

Agricultural input supply, produce marketing and farmer organisation

The aim here should be to build a menu of options in institutional innovation, with interpretive accounts of what works and under what conditions, and in what sequences.²⁹ This lends itself to case studies, with comparisons across circumstances. Case studies may be part of action research on these topics: there will often be scope for interaction with the objects of investigation, especially when dealing with farmer organisations. The research would be organised principally at national levels, with a team in each country investigating contrasting commodity supply chains. Similar sets of commodities could be studied across different countries to provide comparisons.

Work might proceed in two stages, thus:

Stage One would describe the commodity chains in question, using a simple organising framework such as structure-conduct-performance or market maps (Hellin et al. 2005). Studies can involve participation by actors in the chain. When the results are reviewed, there is great scope for interactions with policy-makers and other stakeholders. This could be done within one year, possibly less.

Stage Two would formulate more detailed research questions on the basis of initial findings, and carry out the corresponding studies. Action research may be possible. Within two to three years, it should be possible to generate reasonably reliable insights.

Exemplary work along these lines has been carried out by a partnership between researchers at Imperial College led by Colin Poulton, and national teams in Ghana, Mozambique, Tanzania, Uganda, Zambia and Zimbabwe on the cotton chain (Poulton et al. 2004). Interaction with policy makers and stakeholders in the chains has been high, leading

²⁹ Theory will be contingent — process theory — where we can state sequences of events that lead to outcomes, probabilistically; rather than strict variance theory sufficient and necessary conditions can be specified.

in at least one country — Tanzania — to concerted action by all concerned to improve co-ordination and solve the market failures under study.

This work could be imitated or replicated to expand the menu of policy options; and to create or build on existing networks of those working practically on issues of marketing, input supply and farmer associations to stimulate debate and disseminate lessons. Indeed, in structuring a programme along these lines, a sizeable proportion of the funds might be set aside for networking and dissemination. Co-ordination of the work will need either one of the country teams to be taken as programme leader, or perhaps better would be to have dedicated co-ordination centre. Apart from co-ordination, networking and dissemination, links to leading researchers on these themes (such as the team at Imperial College³⁰) need to be established, with funds to allow them to discuss country plans.

It is not proposed that this programme studies rural finance, since there is already considerable research effort in this field. But a conscious effort would need to be made to follow progress in this field and to link to key research centres on rural finance, since some of the issues of resolving market failures and institutional innovation are very similar. There is much scope for cross-fertilisation of ideas.

Final reflection: methods, outcomes and research success

Seen through some lenses, the agenda and work involved may not produce headline news — and certainly not in the short run. That is because we are trying to find answers to important problems that do not lend themselves to simple, general propositions.

It is arguable that much research — and policy analysis — on development to date has tended to focus first and foremost on areas where modest efforts have high pay-offs in terms of useful advice with widespread application. Some work in macro-economics has this characteristic — think, for example, of understanding the determinants of real exchange rates and the effects of movements in these on key economic variables — although even

³⁰ Lest this be seen as special pleading for colleagues known well to me, there are other groups, including those at Michigan State and IFPRI.

then, turning the general proposition into usable policy advice may require a great deal of additional work on the specifics of context. Such research priorities make sense. But there may come a time when less tractable issues have to be addressed.

A longstanding complaint³¹ in development policy is the split between policy-making and implementation. The former can be a rarefied intellectual exercise, where problems can be reduced to the consideration of a limited range of factors, where awkward facts can be displaced by elegant assumption. The latter, in contrast, is almost inevitably more time-consuming since it is prone to stumbling upon unexpected and uncomfortable problems that have to be resolved and cannot be assumed away. The few³¹ who have written on this theme lament that the resources devoted to the former — and certainly the prestige given — is disproportionate to that given over to the latter; and that to this mis-allocation of resources can be traced some significant development failures.

The agenda proposed here for looking at issues of market failures has much in common with the challenges of implementation. Context matters, a wide range of factors may need consideration, and results may have narrow application — at least at first sight and in the short term: as evidence accumulates more general propositions may be visible. But progress has to be made in these areas, otherwise no amount of more instantly presentable research will make any difference. Building a CGE model of the economy of Tanzania is a valuable exercise, but it will be of limited application if we cannot solve some of the many institutional problems that bog down the country's efforts to grow and reduce poverty. Developing answers to those problems requires work down in the engine room: it may not be glamorous, but it is necessary. Furthermore, it may be that there has never been a time when such work has been more needed.

³¹ See Clay & Schaffer 1984, and the very similar argument presented more recently in Omamo 2003

Bibliography

Adelman, I.; Morris, C.T. 1997. 'Editorial: Development history and its implications for development theory', *World Development*, 25 (6), 831-40.

Clay E.J.; Schaffer, B.B. eds., 1984, *Room for Manoeuvre: An Explanation of Public Policy in Agriculture and Rural Development*. London: Heinemann Educational.

De Janvry, A.; Sadoulet, E. 2002. World poverty and the role of agricultural technology: direct and indirect effects. *Journal of Development Studies*, 38 (4), 1–26

Dorward, A.; Kydd, J.; Morrison, J.; Urey, I. 2004. A policy agenda for pro-poor agricultural growth. *World Development*, 32 (1), 73–89.

Douglass, M. 1998. A regional network strategy for reciprocal rural-urban linkages. *Third World Planning Review*, 20 (1), 1–33.

Eicher, C. 2003. Flashback: Fifty Years of Donor Aid to African Agriculture. *Conference Paper No. 16*, revised version of a paper presented at the InWEnt, IFPRI, NEPAD, CTA conference "Successes in African Agriculture", Pretoria December 1-3, 2003.

Friis-Hansen, E. 2000, Agricultural policy in Africa after adjustment, *CDR Policy Paper*, Centre for Development Research, Copenhagen Denmark, Sept 2000.

Gardner, B. L., 2003. Causes of rural economic development. Elmhirst Lecture, *Proceedings of the 25th International Conference of Agricultural Economists*, Durban, SA, August 2003, 23–47

Gillson, I. 2004. Developed country cotton subsidies and developing countries: unravelling the impacts on Africa. *Briefing Paper*, Overseas Development Institute, London, July 2004,

Hazell, P. B.; Ramasamy, R.C. et al, 1991. *The Green Revolution reconsidered: the impact of high-yielding rice varieties in South India*, Johns Hopkins University Press for IFPRI, Baltimore and London.

Hazell, P. 2002. Why invest in less-favoured areas. Mimeo, IFPRI, Washington, August 2002 — extract from *Investing in poor people in poor lands*, prepared for IFAD by IFPRI and WUR, July 2002

Hellin, J.; Griffith, A.; Albu, M. 2005. Mapping the market: market-literacy for agricultural research and policy to tackle rural poverty in Africa. Paper for DFID Crop Post Harvest Workshop on Beyond Agriculture: Making Markets work for the Poor, London 28 Feb–1 March 2005.

IFAD, 2001, *Rural Poverty Report 2001*, Oxford University Press for International Fund for Agricultural Development

Irz, X.; Lin, L.; Thirtle, C.; Wiggins, S. 2001. Agricultural Growth and Poverty Alleviation. *Development Policy Review*, 19 (4), 449–466.

Jayne, T.S., T. Yamano, M. Weber, D. Tschirley, R. Benfica, D. Neven, A. Chapoto, and B. Zulu, 2001, *Smallholder Income and Land Distribution in Africa: Implications for Poverty Reduction Strategies*. International Development Paper 24, East Lansing, Department of Agricultural Economics, Michigan State University

Lipton, M. 2005, Can small farms survive, prosper, or be the key channel to cut mass poverty? Presentation to FAO Symposium on Agricultural Commercialisation and the Small Farmer, Rome, 4-5 May 2005

Maxwell, S. 2004. New Directions for Agriculture in Reducing Poverty. Essay to launch DFID consultation <http://dfid-agriculture-consultation.nri.org/launchpapers/simonmaxwell.html>

Mead, D.; Liedholm, C. 1998. The dynamics of micro and small enterprises in developing countries. *World Development*, 26(1), 61-74.

O'Connell, S. A., 2004. Explaining African Economic Growth: Emerging Lessons from the Growth Project. Preliminary draft, May 27, 2004.

Omamo. S.W. 2003. Policy research on African agriculture: trends, gaps, and challenges, *ISNAR Research Report 21*, Den Haag, Netherlands

Oxfam, 2002. Cultivating Poverty: The Impact of US Cotton Subsidies on Africa. *Briefing Paper #30*, 27 September 2002.

Poulton, C.; Kydd, J.; Dorward, A. 2004. Overcoming Market Constraints to Pro-Poor Agricultural Growth in Sub Saharan Africa. Paper prepared for the Africa Commission, November 2004, Imperial College London.

Poulton, C.; Gibbon, P.; Hanyani-Mlambo, B.; Kydd, J.; Maro, W.; Larsen, M. N.; Osorio, A. Tschirley, D.; Zulu, B. 2004. Competition and coordination in liberalized African cotton marketing systems. *World Development*, 32 (3), 519–536.

Snrech, S. 1995. Les transformations de l'agriculture ouest-africaine: evolutions 1960-1990. Défis pour l'avenir. Implications pour les pays sahéliens, Mimeo (Sah/(95)451), Club du Sahel, Paris, Dec. 1995

Tiffen, M.; Mortimore, M.; Gichuki, F. 1994 *More people, less erosion: environmental recovery in Kenya*. John Wiley, Chichester.

Wade, R. 1984. Irrigation reform in conditions of populist anarchy: an Indian case. *Journal of Development Economics*, 14, 285–303.

Wiggins, S. 2000, Interpreting changes from the 1970s to the 1990s in African agriculture through village studies. *World Development*, 28 (4), 631–662.

Wiggins, S. with Preibisch, K.; Proctor, S. 1999. .The impact of agricultural policy liberalization on rural communities in Mexico. *Journal of International Development*, 11(7), 1029–1042.

Wood, S.; Sebastian, K.; Nachtergaele, F.; Nielsen, D.; Dai, A. 1999. Spatial aspects of the design and targeting of agricultural development strategies. *EPTD Discussion Paper No. 44*, Environment and Production Technology Division, International Food Policy Research Institute (IFPRI), Washington, D.C.

IDRC Working Papers on Globalization, Growth and Poverty

1. Makinwa-Adebusoye, P. 2006. *Geographic Labour Mobility in Sub-Saharan Africa*.
2. Wiggins, S.. 2006. *Agriculture and Poverty Reduction: A Scoping Study*.
3. Casale M. and A. Whiteside 2006. *The Impact of HIV/AIDS on Poverty, Inequality and Economic Growth*.

List Updated March 2006

Postal Address:

PO Box 8500
Ottawa, ON, Canada
K1G 3H9

Street Address:

250 Albert Street
Ottawa, ON, Canada
K1P 6M1

Tel:

(+1-613) 236-6163

Fax:

(+1-613) 567-7748

E-mail:

ggp@idrc.ca

Website:

<http://www.idrc.ca/ggp>

